

No. 2. — *Reptiles from the Indian Peninsula  
in the Museum of Comparative Zoölogy.*

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CONTENTS

	PAGE
Introduction . . . . .	59
Gazetteer of Localities . . . . .	61
Sources of Material . . . . .	63
Acknowledgements . . . . .	65
Summary of Taxonomic Alterations . . . . .	65
List of Indian Reptiles in the Museum of Comparative Zoölogy . . . . .	66
Systematic Discussion . . . . .	73
Crocodiles . . . . .	73
Chelonians . . . . .	73
Lizards . . . . .	79
Snakes . . . . .	110
Bibliography . . . . .	159

INTRODUCTION

Since the earliest days of biology, taxonomy has been one of its most important branches. From the time of Aristotle men have been listing, naming, and classifying plants and animals, their attention largely confined at first to those plants or animals that were either very conspicuous or of use to man. Until relatively recently the majority of biologists have been taxonomists to some extent, although today such fields as physiology, development, and genetics, that often involve experimentation, may have become more important than taxonomy.

Taxonomy in itself may seem to be of rather little use, but it is an essential adjunct to other important areas of biology. I believe it to be, in general, a tool developed by scientists for their convenience and that therefore the rules and methods that are adopted for its development should be largely determined by their usefulness rather than by more or less abstract concepts of "natural distinctions." It may, for example, be true that two races of snakes can be distinguished on the basis of differences in the hemipenis, but I consider

the difference to be unworthy of taxonomic recognition as long as the females are indistinguishable. Even if the hemipenis differences should be shown to have such a profound effect upon their breeding habits as to prevent cross-breeding of the two forms, I would still consider a new name inconvenient and hence, almost by definition, unnecessary.

Many of the topics that might be correlated with a taxonomic study such as this require large series of specimens from one relatively restricted locality. This is particularly true in the study of the limits of variability within a taxonomic entity and in attempting to distinguish populations by means of average characters. The Indian collections in the Museum of Comparative Zoology are, unfortunately, very deficient in respect to such large series. Of all the species discussed only half a dozen are represented by more than three or four specimens from any one area.

The collections are, however, of importance in other directions. They consist of 775 specimens representing 219 species or forms: of crocodilians 2, chelonians 13, lizards 93, and snakes 112. These include two species not previously described, two that seem to have been known before from only a single specimen, several types, and many topotypes. Although the majority of these reptiles were received at the museum over sixty years ago, very few of them have been adequately studied or described.

I have, therefore, individually examined every specimen, except for a few mounted cobras and pythons, and determined its squamation. In this paper the statistical results of this examination are presented under each species in order to facilitate identification and the definition of geographical races by other students.

Under the name of each species I have first quoted the original citation and type locality. Where these are based upon the plates in Russell's *Indian Serpents* (1796, 1801-1809), the reference to Russell has not been included. The sex of each example is then listed in most groups. This has been determined by dissection except for those lizards in which the males may be distinguished by their pores. The duplication of sex symbols ( $\sigma^7$ ,  $\text{♀}$ , or *juv.*) not preceded by a figure indicates two examples. Symbols separated by a comma always refer to individual specimens. When a juvenile (less than two-thirds the adult size) has been sexed, the  $\sigma^7$  or  $\text{♀}$  is followed by 'juv.' in parentheses. The departmental registration number and locality are listed after the sex. When known, the collector's name is given; if this is unknown, then the source from which the reptile reached the Museum.

The same applies to the date, which is the date of collection if known, otherwise the date of arrival at the Museum. It might be well to note here that the reptiles for which the date 1908 is listed were obtained at this time from the Indian Museum, although the name of the original collector is generally given. The letters N.D. indicate those specimens that lack any date. An analysis of the squamation of our examples follows. The number(s) of the labial(s) entering the orbit is indicated in parentheses after the number of upper labials. The temporals are divided into anterior and posterior (first and second figures respectively). The measurements of length given for each species refer to the largest specimen unless otherwise noted.

### LOCALITIES AND GAZETTEER

The region covered by this paper is all of the Indian mainland formerly included in the British Empire. It does not include Burma, Ceylon, or other islands in the Indian Ocean. The paper was nearly completed before the recent separation of Pakistan from India, and I have not separated the localities on this basis. Considerable difficulty has been experienced with many of the less well known place names, the spellings of which vary widely. In the gazetteer that follows I have listed all the localities from which the Museum of Comparative Zoölogy has material and have indicated their position more fully. In the three cases where I have been unable to find the locality in any atlas or gazetteer it is listed as "not found." The type localities are not included in the gazetteer but, where possible, I have followed the same authorities as for those that are listed.

### GAZETTEER

Spelling is according to the following authorities:

- I. The National Geographic Society map of "India and Burma," Washington, D.C., April, 1946.
- II. *The Imperial Gazetteer of India*, 3rd. ed. revised, 26 vols., Oxford, 1907-09, if listed therein but not on the National Geographic map.
- III. The most recent atlas or gazetteer in which the locality could be found.  
Agra, United Provinces  
Ambala, Ambala Dist., Punjab  
Anaimalai Hills, Coimbatore Dist., Madras  
Baluchistan  
Bangalore, Mysore  
Beas River, N.E. Punjab

Benares Dist., United Provinces  
 Berar  
 Bombay  
 Calcutta, Bengal  
 Chanda Dist., Central Provinces  
 Cherrapunji, Khasi Hills, Khasi States  
 Chilka Lake, Puri Dist., Orissa  
 Coonoor, Nilgiris Dist., Madras  
 Cutch, States of Western India  
 Darjeeling Dist., Bengal  
 Delhi  
 Dhamoa River, Orissa (not found)  
 Ellora, Aurangabad Dist., Hyderabad  
 Fyzabad Dist., United Provinces  
 Ganges River  
 Ganjam, Orissa  
 Gwadar, Kalat Dist., Baluchistan  
 Himalayas  
 Indus Valley  
 Jeypore, Koraput Dist., Orissa  
 Jumna River, United Provinces  
 Kanara Dist., Bombay  
 Karachi, Sind  
 Karauli Dist., Rajputana  
 Karwar, Kanara Dist., Bombay  
 Kathiawar, Gujarat States  
 Kharu, on the Shyok River, Ladakh, Kashmir  
 Khasi Hills, Assam and Khasi States  
 Kodaikanal, Palni Hills, Madura Dist., Madras  
 Kolassy, Purnea Dist., Bihar (not found)  
 Kollegal, Coimbatore Dist., Madras  
 Kudremukh, Western Ghats  
 Kulu (Valley), Kangra Dist., Punjab  
 Kurseong, south of Darjeeling, Bengal (88°16'E. Long. 26° 50' N. Lat.)  
 Ladakh, Kashmir  
 Ludhiana Dist., Punjab  
 Madras  
 Malabar Dist., Madras  
 Matheran, Kolaba Dist., Bombay  
 Nemotha, near Silchar, Cachar Dist., Assam  
 Nilambur, Malabar Dist., Madras  
 Nilgiris Dist., (or Nilgiri Hills), Madras  
 Nushki, Chagai Dist., Baluchistan  
 Pamban Island, Ramnad Dist., Madras  
 Panchgani, Satara Dist., Bombay

Palni Hills, Madura Dist., Madras  
 "Pegu, Burma"  
 Pondichéry  
 Periyakulam, Madura Dist., Madras  
 Quetta, Quetta-Pishin Dist., Baluchistan  
 Rungeel Valley, Sikkim (not found)  
 Sabathu, Simla, Punjab States  
 Salt Range, Attock and Shahpur Dists., Punjab  
 Samaguting, Naga Hills, Assam  
 Sevagiri Hills, Tinnevely Dist., Madras  
 Shembaganur, 8 miles north of Periyakulam, Palni Hills, Madura Dist.,  
 Madras  
 Sheveroy Hills, Salem Dist., Madras  
 Shillong, Khasi Hills, Khasi States  
 Sibpur, Howrah, Bengal  
 Sibsagar, Naga Hills, Assam  
 South Kanara Ghats, Kanara Dist., Bombay  
 Saoreni, south of Darjeeling, Bengal (88° 12' E. Long., 26° 50' N. Lat.)  
 Taliparamba, Malabar Dist., Madras  
 Tellicherry, Malabar Dist., Madras  
 Teynampet, Madras City, Madras  
 Tinnevely Hills, Tinnevely Dist., Madras  
 Tista Valley, Bhutan Border, Sikkim  
 Tragbul Pass, 30 miles N.N.W. of Srinagar, Anantnag Dist., Kashmir  
 Travancore (Hills), Madras States  
 Trivandrum, Madras States  
 Wynaad, Malabar Dist., Madras

#### SOURCES OF MATERIAL

Although the reptiles in the Museum of Comparative Zoölogy have come to us from thirty-five different sources, almost all of them are from six donors, one dealer, and two museums.

The most important single donor was Colonel R. H. Beddome, who sent many collections during the period 1870-1877: a total of 204 specimens representing 61 different species. These collections are of additional importance in that some of them were identified by Beddome as topotypes of species that he himself had described, and may, indeed, have formed parts of the original series from which the types were selected. It is unfortunate that nearly all this material is poorly localized as 'near Madras,' which term apparently included an extensive area.

Very well localized, however, are the collections of the Reverend M. M. Carleton, almost all of which were made in a small region of

the Punjab. From this source the Museum received (from 1871-1880) 230 specimens including 39 species.

When Thomas Barbour gave his own herpetological collection to the Museum in 1903, it included 5 Indian reptiles, all different species. His 1906-07 (wedding) trip around the world further enriched the Indian collections with 41 specimens which included 13 species.

Another source of material was William Theobald, who in 1866 presented a total of 27 examples of 17 species. It is much to be regretted that Theobald gave such unreliable localities with his reptiles since many of the specimens are of great interest.

From Colonel Frank Wall the Museum received 32 specimens (13 species) from 1921 to 1924.

A portion of Dr. M. A. Smith's important collection of sea snakes was received in 1927, of which 10, representing 9 species, came from waters included in the scope of this paper.

Indian reptiles have been received in smaller numbers from other donors at various times: J. M. Barnard (2), J. J. Carleton (6), E. D. Franklin (1), T. H. Hornaday (2), Arthur Loveridge (3), D. C. Scudder (5), W. C. Scudder (1), Percy Watson (2), and Franz Werner (1).

26 Indian reptiles representing 21 species were purchased from E. Gerrard in 1877-86 by Alexander Agassiz. In 1883 a small series (8) of 6 different sea snakes was bought from H. A. Ward of Rochester.

One of the best methods of rounding out collections has always been exchange with other museums and this has been done with some success in the case of our Indian reptiles, though it is hoped that more will soon be possible. The first Indian material to be received in this way was a half dozen specimens from the Paris Museum through A. A. Duméril. There have been two other museums with whom exchanges of Indian material have been extensively carried on. A total of 43 examples (29 species) have come from the British Museum in five exchanges from 1885 to 1946. The most magnificent exchange of all was made in 1908 and 1935 through N. Annandale at the Indian Museum, from whom we received 74 Indian specimens (72 being lizards) representing 71 species, most of which are otherwise unrepresented in the collection. These lizards are of additional importance in that many were taken by celebrated collectors such as Blanford, Maynard, Alcock, Jerdon, and Stoliczka. Some of these lizards may be typical material, but in most cases the original descriptions are too vague as to the number or source of the types for any certain identification to be made. There have been other minor exchanges with the

Australian Museum (1), Basel Museum (1), Berlin Museum (2), Boston Society of Natural History (1), Madras Museum (4), New York Zoölogical Society (1), Peabody Academy of Salem (4), Senckenberg Museum (5), and the United States National Museum (1).

#### ACKNOWLEDGEMENTS

I want to thank first Dr. Malcolm Smith who has been most kind in answering questions and whose works on Indian herpetology have been my guide. I am also indebted to the American Museum of Natural History for the loan of three Uropelts and to the members of the library staff of the Museum of Comparative Zoölogy who have been unfailing in their willingness to help me trace various references. I further want to thank Mr. James L. Peters for help in certain problems concerning the international rules of nomenclature and Mr. Benjamin Shreve for looking over the manuscript. Above all it is impossible for me to express adequately my gratitude to Mr. Arthur Loveridge, at whose suggestion this work was started and without whose constant advice it would never have been completed.

#### SUMMARY OF TAXONOMIC ALTERATIONS

This report consists principally of a correlation of the Indian reptile specimens in the Museum of Comparative Zoölogy with the descriptions given by Dr. Malcolm Smith in his definitive works on Indian herpetology.

As a result of this study the following species have been described for the first time:

*Gymnodactylus malcolmsmithi*, pp. 80-82

*Typhlops loveridgei*, pp. 110-111

the undermentioned have been reinstated as subspecies:

*Boiga ceylonensis nuchalis* (Günther), pp. 142-143

*Echis carinatus pyramidum* (Geoffroy), pp. 155-156

the following are regarded as subspecies:

*Psammophilus blanfordanus* (Stoliczka) as a subspecies of *P. dorsalis* (Gray), p. 94

*Lygosoma (Leiolopisma) latrimaculatum* Boulenger as a subspecies of *L. (L.) bilineatum* (Gray), pp. 104-105

*Lycodon travancoricus* (Beddome) as a subspecies of *L. aulicus* (Linnaeus), p. 135

*Natrix beddomii* (Günther) as a subspecies of *N. stolata* (Linnaeus), pp. 138-139

the undermentioned is believed to be a synonym:

*Uropeltis phipsonii* (Mason) = *U. rubrolineatus* (Günther), pp. 120-122

the specific distinction of the following is considered questionable:

*Lygosoma (Leiopisma) ladacense* (Günther) and *L. (L) himalayana* (Günther), pp. 102-103

*Riopa albopunctata* (Gray) and *R. punctata* (Gmelin), pp. 105-106 and the following are believed doubtfully distinct:

*Python molurus orbiculata* Deraniyagala and *P. m. molurus* (Linnaeus), p. 124

*Python molurus pimbura* Deraniyagala and *P. m. molurus* (Linnaeus), p. 124

*Chrysopelea ornata lankavae* Deraniyagala and *C. ornata* (Shaw), pp. 132-133

## INDIAN REPTILES IN THE MUSEUM OF COMPARATIVE ZOÖLOGY

### CROCODYLIDAE

	Page
<i>Gavialis gangeticus</i> (Gmelin) . . . . .	73
<i>Crocodylus palustris palustris</i> (Lesson) . . . . .	73

### CHELONIIDAE

<i>Eretmochelys imbricata</i> (Linnaeus) . . . . .	73
<i>Chelonia mydas</i> (Linnaeus) . . . . .	74
<i>Lepidochelys olivacea</i> (Eschscholtz) . . . . .	74

### EMYDIDAE

<i>Geoemyda trijuga trijuga</i> (Schweigger) . . . . .	75
<i>Geoemyda trijuga indopeninsularis</i> Annandale . . . . .	75
<i>Geoclemys hamiltoni</i> (Gray) . . . . .	75
<i>Hardella thurgii</i> (Gray) . . . . .	76
<i>Kachuga smithii</i> (Gray) . . . . .	76
<i>Kachuga tectum tectum</i> (Gray) . . . . .	77
<i>Kachuga dhongoka</i> (Gray) . . . . .	77

### TESTUDINIDAE

<i>Testudo elegans</i> Schoepff . . . . .	77
---	----



TRIONYCHIDAE Page

<i>Lissemys punctata punctata</i> (Bonnaterre) . . . . .	78
<i>Chitra indica</i> (Gray) . . . . .	78

## GEKKONIDAE

<i>Teratoscincus scincus</i> (Schlegel) . . . . .	79
<i>Stenodactylus lumsdenii</i> Boulenger . . . . .	79
<i>Alsophylax tuberculatus</i> (Blanford) . . . . .	79
<i>Gymnodactylus malcolmsmithi</i> spec. nov. . . . .	80
<i>Gymnodactylus fedtschenkoi</i> Strauch . . . . .	82
<i>Gymnodactylus scaber</i> (Heyden) . . . . .	82
<i>Gymnodactylus kachhensis kachhensis</i> Stoliczka . . . . .	82
<i>Gymnodactylus feae</i> Boulenger . . . . .	83
<i>Gymnodactylus khasiensis</i> (Jerdon) . . . . .	83
<i>Gymnodactylus nebulosus</i> Beddome . . . . .	84
<i>Gymnodactylus stoliczkai</i> Steindachner . . . . .	84
<i>Gymnodactylus lawderanus</i> Stoliczka . . . . .	84
<i>Agamura persica</i> (Duméril) . . . . .	84
<i>Cnemaspis indica</i> (Gray) . . . . .	85
<i>Cnemaspis wynadensis</i> (Beddome) . . . . .	85
<i>Cnemaspis ornata</i> (Beddome) . . . . .	85
<i>Cnemaspis kandiana</i> (Kelaart) . . . . .	85
<i>Cnemaspis gracilis</i> (Beddome) . . . . .	86
<i>Calodactylodes aureus</i> (Beddome) . . . . .	86
<i>Hemidactylus maculatus</i> Duméril & Bibron . . . . .	86
<i>Hemidactylus turcicus turcicus</i> (Linnaeus) . . . . .	86
<i>Hemidactylus triedrus</i> (Daudin) . . . . .	87
<i>Hemidactylus brookii brookii</i> Gray . . . . .	87
<i>Hemidactylus reticulatus</i> Beddome . . . . .	87
<i>Hemidactylus frenatus</i> Duméril & Bibron . . . . .	88
<i>Hemidactylus leschenaulti</i> Duméril & Bibron . . . . .	88
<i>Hemidactylus flaviviridis</i> Rüppell . . . . .	88
<i>Hemidactylus bowringii</i> (Gray) . . . . .	89
<i>Cosymbotus platyurus</i> (Schneider) . . . . .	89
<i>Gekko gekko</i> (Linnaeus) . . . . .	89
<i>Eublepharis macularius</i> (Blyth) . . . . .	90

## AGAMIDAE

<i>Draco dussumieri</i> Duméril & Bibron . . . . .	90
<i>Sitana ponticeriana</i> Cuvier . . . . .	90
<i>Japalura tricarinata</i> (Blyth) . . . . .	90
<i>Japalura planidorsata</i> Jerdon . . . . .	91

	<i>Page</i>
<i>Japalura variegata</i> Gray . . . . .	91
<i>Salea horsfieldii</i> Gray . . . . .	91
<i>Salea anamallayana</i> (Beddome) . . . . .	91
<i>Calotes versicolor</i> (Daudin) . . . . .	92
<i>Calotes maria</i> Gray . . . . .	92
<i>Calotes jerdoni</i> Günther . . . . .	92
<i>Calotes mystaceus</i> Duméril & Bibron . . . . .	93
<i>Calotes ellioti</i> Günther . . . . .	93
<i>Psammophilus dorsalis dorsalis</i> (Gray) . . . . .	93
<i>Psammophilus dorsalis blanfordanus</i> (Stoliczka) . . . . .	94
<i>Agama himalayana</i> (Steindachner) . . . . .	94
<i>Agama tuberculata</i> Gray . . . . .	94
<i>Agama agorensis</i> (Stoliczka) . . . . .	95
<i>Agama melanura</i> (Blyth) . . . . .	95
<i>Agama nupta</i> de Filippi . . . . .	96
<i>Agama agilis</i> Olivier . . . . .	96
<i>Agama rubrigularis</i> (Blanford) . . . . .	96
<i>Agama minor</i> Hardwicke & Gray . . . . .	96
<i>Phrynocephalus scutellatus</i> (Olivier) . . . . .	97
<i>Phrynocephalus theobaldi</i> Blyth . . . . .	97
<i>Phrynocephalus ornatus</i> Boulenger . . . . .	97
<i>Phrynocephalus maculatus</i> Anderson . . . . .	97
<i>Phrynocephalus euptilopus</i> Alcock & Finn . . . . .	98
<i>Phrynocephalus luteoguttatus</i> Boulenger . . . . .	98
<i>Uromastix hardwickii</i> Gray . . . . .	98

## CHAMAELEONIDAE

<i>Chamaeleo zeylanicus</i> Laurenti . . . . .	99
--	----

## SCINCIDAE

<i>Mabuya bibronii</i> (Gray) . . . . .	99
<i>Mabuya macularia</i> (Blyth) . . . . .	99
<i>Mabuya carinata</i> (Schneider) . . . . .	100
<i>Mabuya multifasciata multifasciata</i> (Kuhl) . . . . .	100
<i>Mabuya beddomii</i> (Jerdon) . . . . .	100
<i>Mabuya trivittata</i> (Hardwicke & Gray) . . . . .	101
<i>Lygosoma</i> ( <i>Sphenomorphus</i> ) <i>indicum indicum</i> (Gray) . . . . .	101
<i>Lygosoma</i> ( <i>Sphenomorphus</i> ) <i>maculatum</i> (Blyth) . . . . .	101
<i>Lygosoma</i> ( <i>Sphenomorphus</i> ) <i>dussumieri</i> Duméril & Bibron . . . . .	101
<i>Lygosoma</i> ( <i>Leiolopisma</i> ) <i>reevesii reevesii</i> (Gray) . . . . .	102
<i>Lygosoma</i> ( <i>Leiolopisma</i> ) <i>himalayanum</i> (Günther) . . . . .	102
<i>Lygosoma</i> ( <i>Leiolopisma</i> ) <i>himalayanum tragbulense</i> Alcock . . . . .	103

	Page
<i>Lygosoma (Leiolopisma) ladacense</i> (Günther) . . . . .	103
<i>Lygosoma (Leiolopisma) sikkimense</i> (Blyth) . . . . .	104
<i>Lygosoma (Leiolopisma) travancoricum</i> (Beddome) . . . . .	104
<i>Lygosoma (Leiolopisma) bilineatum bilineatum</i> (Gray) . . . . .	104
<i>Lygosoma (Leiolopisma) bilineatum laterimaculatum</i> Boulenger . . . . .	104
<i>Riopa punctata</i> (Gmelin) . . . . .	105
<i>Riopa guentheri</i> (Peters) . . . . .	106
<i>Ristella travancorica</i> (Beddome) . . . . .	106
<i>Ristella beddomii</i> Boulenger . . . . .	106
<i>Eumeces taeniolatus</i> (Blyth) . . . . .	107
<i>Ophiomorus tridactylus</i> (Blyth) . . . . .	107

## LACERTIDAE

<i>Acanthodactylus cantoris cantoris</i> Günther . . . . .	107
<i>Cabrila leschenaultii</i> (Milne-Edwards) . . . . .	108
<i>Ophisops jerdoni</i> (Blyth) . . . . .	108
<i>Ophisops microlepis</i> (Blanford) . . . . .	108
<i>Eremias velox persica</i> Blanford . . . . .	108
<i>Eremias aporosceles</i> (Alcock & Finn) . . . . .	109
<i>Eremias guttulata watsonana</i> Stoliczka . . . . .	109

## ANGUIDAE

<i>Ophisaurus gracilis</i> (Gray) . . . . .	109
---	-----

## VARANIDAE

<i>Varanus bengalensis bengalensis</i> (Daudin) . . . . .	110
---	-----

## TYPHLOPIDAE

<i>Typhlops loveridgei</i> spec. nov. . . . .	110
<i>Typhlops porrecta</i> Stoliczka . . . . .	112
<i>Typhlops bramina</i> (Daudin) . . . . .	112
<i>Typhlops diardi diardi</i> Schlegel . . . . .	113
<i>Typhlops beddomii</i> Boulenger . . . . .	113
<i>Typhlops acuta</i> (Duméril & Bibron) . . . . .	113

## LEPTOTYPHLOPIDAE

<i>Leptotyphlops blanfordii</i> (Boulenger) . . . . .	114
---	-----

## UROPELTIDAE

Page

<i>Melanophidium wynandense</i> (Beddome) . . . . .	115
<i>Platyplectrurus madurensis</i> Beddome . . . . .	115
<i>Teretrurus sanguineus</i> (Beddome) . . . . .	115
<i>Teretrurus rhodogaster</i> (Wall) . . . . .	116
<i>Plectrurus perroteti</i> Duméril & Bibron . . . . .	116
<i>Plectrurus canarius</i> (Beddome) . . . . .	116
<i>Uropeltis nitidus</i> (Beddome) . . . . .	117
<i>Uropeltis ocellatus</i> (Beddome) . . . . .	117
<i>Uropeltis wood-masoni</i> (Theobald) . . . . .	119
<i>Uropeltis macrolepis</i> (Peters) . . . . .	119
<i>Uropeltis ceylanicus</i> Cuvier . . . . .	119
<i>Uropeltis arcticeps</i> (Günther) . . . . .	120
<i>Uropeltis rubromaculatus</i> (Beddome) . . . . .	120
<i>Uropeltis rubrolineatus</i> (Günther) . . . . .	120
<i>Uropeltis petersi</i> (Beddome) . . . . .	122
<i>Uropeltis pulneyensis</i> (Beddome) . . . . .	122
<i>Uropeltis grandis</i> (Beddome) . . . . .	123
<i>Rhinophis sanguineus</i> Beddome . . . . .	123

## XENOPELTIDAE

<i>Xenopeltis unicolor</i> Reinwardt . . . . .	123
--	-----

## BOIDAE

<i>Python molurus molurus</i> (Linnaeus) . . . . .	124
<i>Eryx conicus</i> (Schneider) . . . . .	124
<i>Eryx johnii johnii</i> (Russell) . . . . .	125
<i>Eryx johnii persicus</i> Nikolski . . . . .	125

## COLUBRIDAE

<i>Elaphe helena</i> (Daudin) . . . . .	125
<i>Elaphe hodgsonii</i> (Günther) . . . . .	126
<i>Elaphe cantoris</i> (Boulenger) . . . . .	126
<i>Ptyas mucosus</i> (Linnaeus) . . . . .	127
<i>Coluber ventromaculatus</i> Gray & Hardwicke . . . . .	127
<i>Coluber fasciolatus</i> Shaw . . . . .	127
<i>Coluber diadema</i> Schlegel . . . . .	128
<i>Opheodrys calamaria</i> (Günther) . . . . .	128
<i>Opheodrys rappii</i> (Günther) . . . . .	128
<i>Oligodon cyclurus</i> (Cantor) . . . . .	129

	Page
<i>Oligodon albocinctus</i> (Cantor) . . . . .	129
<i>Oligodon theobaldi</i> (Günther) . . . . .	129
<i>Oligodon cruentatus</i> (Günther) . . . . .	130
<i>Oligodon taeniolatus</i> (Jerdon) . . . . .	130
<i>Oligodon arnensis</i> (Shaw) . . . . .	131
<i>Oligodon affinis</i> Günther . . . . .	131
<i>Ahaetulla ahaetulla ahaetulla</i> (Linnaeus) . . . . .	132
<i>Ahaetulla grandoculis</i> (Boulenger) . . . . .	132
<i>Chrysopelea ornata</i> (Shaw) . . . . .	132
<i>Chrysopelea taprobanica</i> Smith . . . . .	133
<i>Lycodon subcinctus</i> Boie . . . . .	133
<i>Lycodon striatus</i> (Shaw) . . . . .	134
<i>Lycodon aulicus aulicus</i> (Linnaeus) . . . . .	134
<i>Lycodon aulicus travancoricus</i> (Beddome) . . . . .	135
<i>Dryocalamus gracilis</i> (Günther) . . . . .	136
<i>Sibynophis collaris</i> (Gray) . . . . .	136
<i>Sibynophis subpunctatus</i> (Duméril & Bibron) . . . . .	136
<i>Natrix piscator</i> (Schneider) . . . . .	136
<i>Natrix himalayana</i> (Günther) . . . . .	137
<i>Natrix subminiata</i> (Schlegel) . . . . .	137
<i>Natrix stolata stolata</i> (Linnaeus) . . . . .	138
<i>Natrix stolata beddomii</i> (Günther) . . . . .	138
<i>Natrix monticola</i> (Jerdon) . . . . .	139
<i>Macropisthodon plumbicolor</i> (Cantor) . . . . .	140
<i>Artretium schistosum</i> (Daudin) . . . . .	140
<i>Trachischium monticola</i> (Cantor) . . . . .	140
<i>Trachischium fuscum</i> (Blyth) . . . . .	141
<i>Trachischium tenuiceps</i> (Blyth) . . . . .	141
<i>Xylophis perroteti</i> (Duméril & Bibron) . . . . .	141
<i>Boiga ochracea ochracea</i> (Günther) . . . . .	141
<i>Boiga trigonata</i> (Schneider) . . . . .	142
<i>Boiga ceylonensis nuchalis</i> (Günther) . . . . .	142
<i>Boiga multifasciata</i> (Blyth) . . . . .	143
<i>Boiga forsteni</i> (Duméril & Bibron) . . . . .	144
<i>Psammophis leithii</i> Günther . . . . .	144
<i>Psammodynastes pulverulentus</i> (Boie) . . . . .	145
<i>Dryophis perroteti</i> (Duméril & Bibron) . . . . .	145
<i>Dryophis dispar</i> (Günther) . . . . .	145
<i>Dryophis fronticinctus</i> Günther . . . . .	146
<i>Dryophis nasutus</i> (Lacépède) . . . . .	146
<i>Dryophis pulverulentus</i> (Duméril & Bibron) . . . . .	146
<i>Enhydriis enhydriis</i> (Schneider) . . . . .	147
<i>Enhydriis sieboldii</i> (Schlegel) . . . . .	147
<i>Cerberus rhynchops</i> (Schneider) . . . . .	147

## ELAPIDAE

Page

<i>Bungarus fasciatus</i> (Schneider) . . . . .	147
<i>Bungarus caeruleus</i> (Schneider) . . . . .	148
<i>Calliophis nigrescens</i> (Günther) . . . . .	148
<i>Calliophis maccllellandii</i> (Reinhardt) . . . . .	149
<i>Naja naja naja</i> (Linnaeus) . . . . .	149
<i>Naja naja kaouthia</i> Lesson . . . . .	150

## HYDROPHIIDAE

<i>Laticauda colubrina</i> (Schneider) . . . . .	150
<i>Kerilia jerdoni</i> Gray . . . . .	151
<i>Enhydrina schistosa</i> (Daudin) . . . . .	151
<i>Hydrophis spiralis</i> (Shaw) . . . . .	151
<i>Hydrophis cyanocinctus</i> Daudin . . . . .	152
<i>Hydrophis obscurus</i> Daudin . . . . .	152
<i>Hydrophis striticollis</i> Günther . . . . .	152
<i>Hydrophis ornatus ornatus</i> (Gray) . . . . .	153
<i>Hydrophis mamillaris</i> (Daudin) . . . . .	153
<i>Hydrophis fasciatus fasciatus</i> (Schneider) . . . . .	153
<i>Astrotia stokesii</i> (Gray) . . . . .	153
<i>Microcephalophis gracilis gracilis</i> (Shaw) . . . . .	154
<i>Microcephalophis cantor</i> (Günther) . . . . .	154
<i>Pelamis platurus</i> (Linnaeus) . . . . .	154

## VIPERIDAE

<i>Vipera russelli russelli</i> (Shaw) . . . . .	155
<i>Echis carinatus carinatus</i> (Schneider) . . . . .	155
<i>Echis carinatus pyramidum</i> (Geoffroy) . . . . .	155

## CROTALIDAE

<i>Agkistrodon himalayanus</i> (Günther) . . . . .	157
<i>Agkistrodon hypnale</i> (Merrem) . . . . .	157
<i>Trimeresurus macrolepis</i> Beddome . . . . .	157
<i>Trimeresurus malabaricus</i> (Jerdon) . . . . .	158
<i>Trimeresurus albolabris</i> Gray . . . . .	158

## SYSTEMATIC DISCUSSION

## CROCODYLIDAE

## GAVIALIS GANGETICUS (Gmelin)

*Lacerta gangetica* Gmelin, 1789, Syst. Nat., 1, p.1057: Type locality unknown.

1 mtd. (Exhibition) Jumna River (T. H. Hornaday) N.D.

1 mtd. (M. C. Z. 5263) India (H. A. Ward) 1883.

skull (M. C. Z. 29777) India (E. Gerrard) 1931.

skull (M. C. Z. 33950) Jumna River (T. H. Hornaday) 1932.

skull (M. C. Z. 46551) India (Peabody Mus., Salem) 1942.

Upper teeth on either side 28-29, in each premaxilla 5; mandibular teeth on either side 25-26; nuchals together with dorsals form a continuous series of 21 transverse and 4 longitudinal rows; post-occipitals 2, or 2 with 2 smaller ones diagonally anterior to the larger pair in the exhibited specimen. Length of exhibited specimen 3320 (1900 + 1420) mm.; overall length of largest skull (M. C. Z. 46551), 890 mm.

## CROCODYLUS PALUSTRIS PALUSTRIS (Lesson)

*Crocodylus palustris* Lesson, 1834, in Belanger, Voyage Ind. Orient., Zool., p. 305: Ganges River, India.

alcoholic ♀ (juv.) (M. C. Z. 3835) Kanara, Bombay (E. Gerrard) 1878.

skull (M. C. Z. 4036) India (E. Gerrard) 1878.

skull (M. C. Z. 4371) India (E. Gerrard) 1878.

Upper teeth on either side 19, in each premaxilla 5; premaxillo-maxillary suture fairly straight; nuchals 4 large and 2 small; post-occipitals 4; dorsal scutes missing in M. C. Z. 3835; webbing of fingers and toes normal. Length of juvenile ♀, 301 (160 + 141) mm.; overall length of larger skull (M. C. Z. 4371), 610 mm.

Trinomials are used to distinguish between this Indian form and the Ceylon subspecies — *C. palustris kimbula* Deraniyagala of which there are paratypes in the Museum of Comparative Zoölogy.

## CHELONIIDAE

## ERETMOCHELYS IMBRICATA (Linnaeus)

*Testudo imbricata* Linnaeus, 1766, Syst. Nat. (ed. 12), 1, p. 350: American and Asiatic Seas.

*Eretmochelys squamata* Agassiz, 1857, Contr. Nat. Hist. United States, **1**, p. 382: Indian and Pacific Oceans.

juv. (M. C. Z. 1415) Bengal (J. M. Barnard) 1857.

Jaws hooked; prefrontals 4; carapace tricarinate; shields imbricate; nuchal 1; costals 4 pairs; vertebrals 5; marginals 12 pairs; enlarged inframarginals 5 on each side; pygal absent; hind limb with 2 claws. Color above, dark brown; below blackish. Length of shell 73 mm.

This specimen is a cotype of the alleged Pacific race *squamata*.

#### CHELONIA MYDAS (Linnaeus)

*Testudo Mydas* Linnaeus, 1758, Syst. Nat. (ed. 10), **1**, p. 197: Ascension Island.

juv. (M. C. Z. 1414) Bengal (J. M. Barnard) 1857.

Jaws not hooked; prefrontals 2; carapace unicarinate with indications of lateral keels; shields juxtaposed; nuchal 1; costals 4 pairs; vertebrals 5; marginals 12 pairs; enlarged inframarginals 4 on each side; pygal absent; hind limb with 1 claw. Color normal for young. Length of shell 58 mm.

This turtle was originally identified as *C. m. japonica* (Thunberg), but I follow Dr. Malcolm A. Smith (1931, p. 70) in considering this name synonymous with *mydas*.

#### LEPIDOCHELYS OLIVACEA (Eschscholtz)

*Chelonia olivacea* Eschscholtz, 1829, Zool. Atlas, p. 3, pl. iii: Manila Bay, Philippine Islands.

5 juv. (M. C. Z. 4003, 4018) Calcutta (W. Theobald) 1866.

Jaws hooked; prefrontals 4 or 5 (in one example only); carapace tricarinate in all these juveniles; shields juxtaposed; nuchal 1, in contact with the first costals in all examples except M. C. Z. 4003A where it is separated, although this character is used in Carr's (1942, p. 4) key to the genera of Cheloniidae; costals 5-7 pairs; vertebrals 6-7 (7 in one example only); marginals 13 pairs; enlarged inframarginals 4 on bridge with 3-7 elsewhere; intergular absent; pygal absent; hind limb with 2 claws. Color above, uniformly dark; below paler. Length of shells 35-41 mm.



Many authors have regarded *L. olivacea* as synonymous with *Caretta caretta*, or at most (M. A. Smith, 1931, p. 71) a race. Recently, however, Carr (1942, p. 2) has shown that, together with *L. kempüi*, it is generically distinct.

## EMYDIDAE

### GEOEMYDA TRIJUGA TRIJUGA (Schweigger)

*Emys trijuga* Schweigger, 1814, Prodr. Monog. Chel., p. 41: "Java."

♀ (M. C. Z. 13193) No locality (E. D. Franklin) 1913.

♀ (M. C. Z. 20166) No locality (N. Y. Zool. Soc.) N. D.

Upper jaw notched, scarcely projecting mesially; bony temporal arch present; skin on hinder part of head somewhat divided into large shields; shell tricarinate, not serrated posteriorly; plastron deeply notched posteriorly; neural plates hexagonal, short-sided behind; shields juxtaposed; nuchal small, pointed anteriorly; costals 4 pairs; vertebrae 5-6; marginals 12 pairs; axillary present; inguinal absent; pygal absent; front limb with 5 claws, hind limb with 4. Color apparently normal for *trijuga trijuga* but the racial determination of these non-localized specimens must remain questionable. Length of ♀ carapace (M. C. Z. 13193), 160 mm.

### GEOEMYDA TRIJUGA INDOPENINSULARIS Annandale

*Geoemyda indopeninsularis* Annandale, 1913, Rec. Indian Mus., 9, p. 71, pls. v-vi: Singbhum District, Chota Nagpur, India.

1 mtd. (Exhibition) Calcutta (No further data).

Similar to *G. t. trijuga*, but on account of its locality this specimen, whose head coloration cannot be satisfactorily ascertained, is referred to *indopeninsularis*. Length of carapace, 186 mm.

### GEOCLEMYS HAMILTONI (Gray)

*Emys hamiltoni* Gray, 1831, Illus. Indian Zool., pt. 6, pl. ix (bearing caption *guttata*): India.

♀ (M. C. Z. 4004) Calcutta (W. Theobald) 1866.

1 mtd. ♀ (M. C. Z. 6759) India (T. Barbour) 1903.

Upper jaw slightly projecting, broadly emarginate mesially; bony temporal arch present; skin on hinder part of head divided into large shields; shell tricarinate, slightly serrated posteriorly; plastron deeply notched posteriorly; neural plates hexagonal, short-sided in front; shields juxtaposed; nuchal small to moderate, broadest posteriorly; costals 4 (5 on one side of M. C. Z. 6759) pairs; vertebrals 5; marginals 12 pairs; axillary and inguinal present; pygal absent; front limb with 5 claws, hind limb with 4. Color normal. Length of carapace of mounted example, 226 mm.

#### HARDELLA THURGHII (Gray)

*Emys thurghii* Gray, 1831, Syn. Rept., pp. 22, 72: India.

♀ ♀ (M. C. Z. 4002) Calcutta (W. Theobald) 1866.

Upper jaw strongly projecting, much denticulated; bony temporal arch present; skin on hinder part of head divided transversely into small scales; shell unicarinate, slightly serrated posteriorly; plastron notched posteriorly; neural plates hexagonal, short-sided behind; shields juxtaposed; nuchal moderate, broadest posteriorly; costals 4 pairs; vertebrals 5; marginals 12 pairs; axillary and inguinal present; pygal absent; front limb with 5 claws, hind limb with 4. Color normal. Length of carapaces, 98 and 107 mm.

On page 22 of his original description Gray three times spells the name *Thurjii*, but on page 72 of the "Additions and Corrections" he gives it as *Thurgii*, which corrected form I use. In the Illustrations of Indian Zoology — which presumably appeared after the Synopsis Reptilium — the name appears as *Thuji*.

#### KACHUGA SMITHII (Gray)

*Batagur smithii* Gray, 1863, Proc. Zool. Soc. London, p. 253: Chenab River, Punjab, India.

1 shell (Exhibition) Bengal (No further data).

1 juv. (M. C. Z. 3233) Ludhiana, Punjab (M. M. Carleton) 1871.

Upper jaw strongly projecting, not notched, finely denticulated; bony temporal arch present; skin on hinder part of head divided into large, fairly symmetrical shields; shell unicarinate, very slightly serrated posteriorly; plastron not very deeply notched posteriorly; neural plates hexagonal, short-sided in front; shields juxtaposed;

nuchal small, almost rectangular; costals 4 pairs; vertebrals 5; marginals 12 pairs; axillary and inguinal present; pygal absent; front limb with 5 claws, hind limb with 4. Color normal, the alcoholic specimen showing a large brownish patch on the upper surface of the neck. Length of carapace in exhibition specimen, 165 mm.

#### KACHUGA TECTUM TECTUM (Gray)

*Emys tectum* Gray, 1830, Illus. Indian Zool., pt. 2, pl. vii; 1831, 1, pl. lxxii: India.

1 mtd. (M. C. Z. 4005) Calcutta (W. Theobald) 1866.

Upper jaw fairly strongly projecting, finely denticulated; bony temporal arch present; skin on hinder part of head divided into large shields; shell unicarinate, very slightly serrated posteriorly; plastron not very deeply notched posteriorly; neural plates hexagonal, short-sided in front; shields juxtaposed; nuchal very small, broadest posteriorly; costals 4 pairs; vertebrals 5; marginals 12 pairs; axillary and inguinal present; pygal absent; front limb with 5 claws, hind limb with 4. Color normal for *t. tectum*. Length of carapace, 95 mm.

#### KACHUGA DHONGOKA (Gray)

*Emys dhongoka* Gray, 1834, Illus. Indian Zool., 2, pl. lx: North India.

3 shells (M. C. Z. 4001) Bengal (No further data).

Shell unicarinate, slightly serrated posteriorly; plastron deeply notched posteriorly; neural plates hexagonal, short-sided in front; shields juxtaposed; nuchal small, much broader posteriorly; costals 4 pairs; vertebrals 5; marginals 12 pairs; axillary and inguinal present; pygal absent. Color normal with faint longitudinal stripes. Length of largest carapace, 218 mm.

### TESTUDINIDAE

#### TESTUDO ELEGANS Schoepff

*Testudo elegans* Schoepff, 1792, Hist. Test., p. 111, pl. xxv: India.

1 mtd. (M. C. Z. 6937) Calcutta (T. Barbour) 1903.

♂ (M. C. Z. 18376) Assam (A. Loveridge) 1924.

Upper jaw projecting, slightly tricuspid; head with a pair of enlarged prefrontals, otherwise covered with small irregular scales; shell not carinate, but each vertebral and costal markedly humped, deeply serrated posteriorly; plastron notched posteriorly; neural plates alternately tetragonal and hexagonal; shields juxtaposed; nuchal absent; costals 4 pairs; vertebrales 5; marginals 11 pairs; axillary and inguinal rather small; pygal present; front limb with 5 claws, hind limb with 4. Color normal except that in both examples the number of streaks on each shield is often less than eight; in M. C. Z. 6937 four shields have only 5-7 streaks, while in M. C. Z. 18376 one has 5, five have 6, two have 7, and only five have 8 or more streaks. Length of carapace (M. C. Z. 6937), 135 mm.

### TRIONYCHIDAE

#### LISSEMYIS PUNCTATA PUNCTATA (Bonnaterre)

*Testudo punctata* Bonnaterre, 1789, in Daubenton, Tab. Encycl. Méth., Erpét., p. 30, pl. vi, fig. 4: Les Grandes Indes.

juv. (M. C. Z. 4006) Calcutta (W. Theobald) 1866.

juv. (M. C. Z. 4174) India (E. Gerrard) 1877.

♂ (M. C. Z. 28642) Benares (Brit. Mus.) 1929.

skull (M. C. Z. 49013) India (E. Gerrard) 1877?

Neural plates 7-8; nuchal plate large; a prenuchal marginal; costal plates 8 pairs, the last 2 pairs forming a median suture; a series of posterior margin plates present; plastral callosities 7; front limb with 3 claws, hind limb with 3. Color normal, the spots very faint in M. C. Z. 4174. Length of bony carapace (M. C. Z. 28642), 130 mm.

#### CHITRA INDICA (Gray)

*Trionyx indicus* Gray, 1831, Syn. Rept., p. 47: Fatehgarh, Ganges River, India.

1 skeleton (Exhibition) India (No further data).

Neural plates 8; nuchal plate overlying second dorsal rib; costal plates 8 pairs, the last pair in contact on the median line; hyoplastron and hypoplastron distinct, separate. This specimen is unusual in having 4 pairs of bones in the body of the hyoid, while, according to Dr. Malcolm Smith (1931, p. 152) "three appear to be constantly present in *Chitra*." Length of bony carapace, 490 mm.

## GEKKONIDAE

## TERATOSCINCUS SCINCUS (Schlegel)

*Stenodactylus scincus* Schlegel, 1858, Handl. Dierk., 2, p. 16: Ili River, Turkestan.

♂ (M. C. Z. 7126) Baluchistan (F. P. Maynard) 1908.

Upper labials 10–11; lower labials 8–9 (10–12 is given as the usual range by M. A. Smith, 1935, p. 31); postnasals 2; midbody scale rows 34. The coloration is very well defined in our example, which shows four irregular blackish crossbars on the back and four on the top of the tail; there are also remnants of four longitudinal black stripes on the back, and the head is distinctly and elegantly marked with dark brown. Total length of ♂, 122 (72 + 50) mm.

## STENODACTYLUS LUMSDENII Boulenger

*Stenodactylus lumsdenii* Boulenger, 1887, Cat. Liz. Brit. Mus., 3, p. 479: in the sandy desert between Nushki and Helmand, North Baluchistan, India.

♂ (M. C. Z. 7137) Baluchistan (F. P. Maynard & A. H. MacMahon) 1908.

This well-preserved gecko is apparently the first known male of a rare species until now known only from the female type. It was received in exchange from the Indian Museum as *Agamura persica*. Our male agrees with the description of the type as given by M. A. Smith (1935, p. 35) except in coloration; instead of the 7 distinct crossbars on the back M. C. Z. 7137 has 6 wide w-shaped bars with indications of 4 very narrow longitudinal ones; in addition it has 10 dark bands on the tail, and a blackish curved mark on the neck. It has 7 preanal pores and shows very marked swellings at the base of the tail. Total length of ♂, 99 (44 + 55) mm., which is 26 mm. longer than the type.

## ALSOPHYLAX TUBERCULATUS (Blanford)

*Bunopus tuberculatus* Blanford, 1874, Ann. Mag. Nat. Hist. (4), 13, p. 454: Baluchistan, India.

♀ cotype (M. C. Z. 7128) Baluchistan (W. T. Blanford) 1874.

Upper labials 11; lower labials 10. In coloration the dark brown spots scarcely form crossbars on the back. Total length of ♀, 76 (34 + 42) mm.

GYMNODACTYLUS MALCOLMSMITHI spec. nov.

*Type.* Museum of Comparative Zoölogy, No. 3252, an adult male from the Beas River basin, Punjab, India, collected by the Rev. M. M. Carleton about 1872.

*Paratype.* Museum of Comparative Zoölogy, No. 4335, a juvenile from the Kulu Valley, Punjab, India, taken by the same collector, also about 1872.

The localities on these specimens seem likely to be correct, as nearly all the work of this collector was done in one small area.

*Diagnosis.* Considerable difficulty was experienced in determining whether these lizards should be assigned to the genus *Gymnodactylus* or *Hemidactylus*. Unfortunately their condition does not permit a wholly satisfactory examination of the digits, which apparently exhibit a moderate dilation, there being about 8-9 lamellae under the fourth toe; one or two of the lamellae give the appearance of being divided — particularly in the larger specimen. Mr. Loveridge very kindly examined these lizards at my request and concluded that the digital condition is closest to that found in *Gymnodactylus*, even though in some ways approaching *Hemidactylus*. The smaller gecko was sent to Dr. Malcolm Smith who was good enough to examine it and state that he considered it to be a new *Gymnodactylus*. I shall, therefore, place these lizards in the genus *Gymnodactylus* even though it will be necessary for the purpose of diagnosis to compare them with some species of *Hemidactylus*.

These two geckos show considerably greater expansion of the digits than do any other Indian *Gymnodactylus* examined, although this may be partly due to their rather swollen and macerated condition. They differ from all the *G. scaber* group in their less massively developed dorsal tubercles, and in the number and arrangement of the preanofemoral pores. They differ from all the *G. pulehellus* group in length of limb, arrangement of the pores, or in range; and from other *Gymnodactylus* in the presence of pores and of enlarged transverse plates beneath the tail.

The new lizards differ from all the Indian *Hemidactylus* in their digits, but most nearly approach *H. maculatus* from which they further differ in the size of the ear-opening, development of the post-

mentals, size of the dorsal tubercles, number of preano-femoral pores, length of limb, range and size. In addition to digital expansion both our geckos differ from other Indian species of *Hemidactylus* in at least two of the following characters: size and development of the dorsal tubercles, number of subdigital lamellae, size of ear-opening, number and arrangement of pores, or range.

*Description.* (Paratype data, where differing from that of the type, included in parentheses). Head and body depressed; head moderate; snout longer than the distance between the eye and the ear-opening, which is about as large as the first upper labial; upper labials (11) — 12; lower labials (8) — 10; rostral broader than high, with median cleft above; nostril between the rostral and 3 nasals, not (or just in paratype) including the first labial; a pair of internasals separated by a single scale; head covered above with rounded granular scales which are largest upon the canthus rostralis; mental large, subtriangular, twice as long as the adjacent labials; two pairs of postmentals, the inner pair well developed and in contact behind the mental, the outer pair much (somewhat) smaller and separated (not in paratype) by a row of small scales from the lower labials; the flat granular scales behind the postmentals are somewhat enlarged and merge gradually into the very small scales of the gular region.

Back with small granular scales intermixed with rather irregular rows of much larger, rounded, keeled tubercles which at midbody are arranged in about 16 oblique rows across the back (i.e. 8 on each side of the vertebral line); no enlarged scales on the very slight lateral folds which are separated across the middle of the belly by about 36 rounded, imbricate scales; the adpressed hind limb reaches to a point considerably short of the axilla; digits elongate with exceptionally well developed lamellae for this genus, 8–9 under the fourth toe (see diagnosis above for further discussion of this character). Tail rather strongly depressed, oval in section, covered above with small imbricate scales and regular series of large keeled tubercles, 6 in a row except at the very base where there are 8 (not in paratype); below is a median series of transversely enlarged plates which are divided into two at the base of the tail and which are never as broad as the tail. Male with 12 (no count possible on paratype) preano-femoral pores separated mesially by two (one in paratype) scales from those on the other side.

*Color.* Both specimens are in poor condition. The type is faded and is at present pallid buff above; on the occiput an indistinct pale horseshoe-shaped mark connects with the posterior corners of the upper eyelids. A light vertebral line. Possibly some indication of darker

transverse barring on the limbs and tail. Below, white, uniform. The paratype is gray above, limbs brownish. Below, paler gray (possibly discolored).

*Size.* Type. Length from snout to vent 55 mm., tail 45 mm., but tip regenerated. Paratype. Length from snout to vent 38 mm., tail 44 mm.

*Remarks.* I take great pleasure in naming this interesting new gecko after Dr. Malcolm A. Smith whose three definitive volumes on Indian reptiles have been my constant guide, and whose help in answering questions has been of great service to me.

#### GYMNODACTYLUS FEDTSCHENKOI Strauch

*Gymnodactylus fedtschenkoi* Strauch, 1887, Mem. Acad. St. Pétersb., 35, p. 46: Samarkand, Turkestan.

♀ ? (M. C. Z. 7129) Salt Range, Punjab (W. Theobald) 1908.

Due to the extreme desiccation of this specimen, proper examination and checking of the specific determination prove impossible.

#### GYMNODACTYLUS SCABER (Heyden)

*Stenodactylus scaber* Heyden, 1827, in Rüppell, Atlas N. Afr. Rept., p. 15, pl. iv, fig. 2: Tor, Sinai, Egypt.

juv. (M. C. Z. 7130) Sind (Indian Mus.) 1908.

Owing to its very poor preservation a satisfactory examination of this tiny gecko could not be made. Length of head and body 20 mm., tail missing.

#### GYMNODACTYLUS KACHHENSIS KACHHENSIS Stoliczka

*Gymnodactylus kachhensis* Stoliczka, 1872, Proc. Asiatic Soc. Bengal, p. 79: Cutch, India.

♀ (M. C. Z. 7131) Sind (J. A. Murray) 1908.

Condition very bad; upper labials 10; lower labials 9; apparently referable to the typical race though the number of scales across the belly is indeterminable. Total length of ♀, 71 (42 + 29) mm.



## GYMNODACTYLUS FEAÉ Boulenger

*Gymnodactylus feae* Boulenger, 1893, Ann. Mus. Civ. Stor. Nat. Genova (2), 13, p. 313, pl. vii, fig. 1: Karenni Hills, Burma.

♂ (M. C. Z. 21915) Calcutta (Berlin Mus.) 1925.

Upper labials 10 (+2 or 3 small ones); lower labials 9 or 10. In his original description Boulenger gives the upper labials as 7-8, the lower as 8-9, but Dr. Malcolm Smith, after re-examination of the type, states there are 11-12 upper and 9-10 lower labials (similar to *G. intermedius*) so that M. C. Z. 21915 agrees better with Smith's count.

The identification of this lizard, originally received as *G. pulchellus*, has raised several problems. It seems scarcely possible it could be referred to either *G. consobrinus* or *intermedius*. It shows a clearly defined lateral fold of enlarged scales and has 28 large (+6 or 8 small) scales between the folds; the enlarged tubercles are arranged in 24-26 rather irregular rows.

Although the type is a ♀ Boulenger describes the ♂ as having a "continuous series of 32 pores along the thighs and across the preanal region." This description may have been based on the slightly pitted scales of the ♀ type. Dissection clearly shows our specimen to be a ♂ but it has only a single preanal pore and the series of enlarged, slightly pitted, scales characteristic of the ♀ type.

In coloration our example is similar to the type in the number and shape of its clearly marked dorsal crossbars, but lacks the large brown spots on the head which is uniform pale brown in this case. Its markings closely resemble those of *intermedius* as shown in Smith (1935, pl. i).

The stomach contains beetle and grasshopper remains as well as a coleopterous larva about 32 mm. in length. Total length of ♂, 167 (74 + 93) mm., considerably larger than the type.

## GYMNODACTYLUS KHASIENSIS (Jerdon)

*Pentadactylus khasiensis* Jerdon, 1870, Proc. Asiatic Soc. Bengal, p. 75: Khasi Hills, Assam, India.

♂ topotype (M. C. Z. 7133) Cherrapunji, Assam (Lt. Bourne) 1908.

Upper labials 12; lower labials 10; preanal pores 12. Total length of ♂, 122 (83 + 39) mm., but tail regenerated.

## GYMNODACTYLUS NEBULOSUS Beddome

*Gymnodactylus nebulosus* Beddome, 1870, Madras Month. Journ. Med. Sci., 2, p. 174: Golconda Hills near Vizagapatam, India.

♂ (M. C. Z. 49109) Nilambur, Madras (Brit. Mus.) 1946.

Upper labials 10; lower labials 10; no pores. Total length of ♂, 67+ (42 + 25+) mm., but tail regenerated. Collected by R. H. Beddome.

## GYMNODACTYLUS STOLICZKAI Steindachner

*Gymnodactylus stoliczkai* Steindachner, 1869, Reise Novara, Rept., p. 15, pl. ii, fig. 2: near Karoo, north of Dras, Kashmir, India.

♂ (M. C. Z. 7132) Ladakh (F. Stoliczka) 1908.

Upper labials 9; lower labials 8; no pores. Total length of ♂, 85 (48 + 37) mm.

## GYMNODACTYLUS LAWDERANUS Stoliczka

*Gymnodactylus lawderanus* Stoliczka, 1871, Proc. Asiatic Soc. Bengal, p. 194, and 1872 Journ. Asiatic Soc. Bengal, 41, p. 105, pl. ii, fig. 4: Almora, Kumaon, India.

♂ (M. C. Z. 3152) Ambala (M. M. Carleton) 1873.

3 ♂ ♂, ♀ (M. C. Z. 3442, 4803) Kulu Valley (M. M. Carleton) 1873-4.

♂ (M. C. Z. 19569) No data.

Upper labials 9-10; lower labials 8-10; preanal pores 6-8 (4-5 according to M. A. Smith, 1935, p. 59). Total length of ♀ (M. C. Z. 4803), 96 (60 + 36) mm.

## AGAMURA PERSICA (Duméril)

*Gymnodactylus persicus* Duméril, 1856, Arch. Mus. Hist. Nat. Paris, 8, p. 481: Persia.

♀ (M. C. Z. 7136) Baluchistan (W. T. Blanford) 1908.

This specimen is a cotype of *Agamura cruralis* Blanford. Upper labials 13-14; lower labials 10-11. Total length of ♀, 129 (70 + 59) mm.

## CNEMASPIS INDICA (Gray)

*Goniodactylus indicus* Gray, 1846, Ann. Mag. Nat. Hist., **18**, p. 429: Madras Presidency, India.

♂ totype (M. C. Z. 7138) Nilgiri Hills (R. H. Beddome) 1908.

Upper labials 7-8; lower labials 6; femoral pores 3 on one side, 4 on the other. Length of head and body, 30 mm.; tail damaged.

## CNEMASPIS WYNADENSIS (Beddome)

*Gymnodactylus wynadensis* Beddome, 1870, Madras Month. Journ. Med. Sci., **1**, p. 32: Wynaad, India.

♂ ♂, 5 ♀ ♀ (M. C. Z. 4745) India (R. H. Beddome) 1871.

Upper labials 6-8; lower labials 6-8; femoral pores 4-5 on each side. Length of head and body of largest ♀, 39 mm., tail damaged.

## CNEMASPIS ORNATA (Beddome)

*Gymnodactylus ornatus* Beddome, 1870, Madras Month. Journ. Med. Sci., **1**, p. 32: Tinnevely, India.

♂, 4 ♀ ♀, juv. (M. C. Z. 4749) No data.

♀ (M. C. Z. 7139) Travancore (R. H. Beddome) 1908.

♀ (M. C. Z. 28650) Wynaad (Brit. Mus.) 1929.

There is some doubt as to the identification of M. C. Z. 7139 which is not in very good condition. M. C. Z. 28650 was received as *C. marmoratus* Beddome, which is a synonym of *C. beddomei* (Theobald). Upper labials 6-8; lower labials 6-8; preanal pores only 5 in male. Length of head and body of ♀ (M. C. Z. 28650), 52 mm.; tail damaged.

## CNEMASPIS KANDIANA (Kelaart)

*Gymnodactylus kandianus* Kelaart, 1852, Prod. Fauna Zeyl., p. 186: Hills round Kandy, Ceylon.

4 ♂ ♂, 5 ♀ ♀ (M. C. Z. 3927, 4751) Madras (R. H. Beddome) N. D.

♂, ♀ ♀ (M. C. Z. 4752) India (R. H. Beddome) N. D.

Upper labials 7-8; lower labials 7-8; preanal pores 2, femoral pores 3-4 in males. Length of head and body of largest ♂, 44 mm., tail damaged.

## CNEMASPIS GRACILIS (Beddome)

*Gymnodactylus gracilis* Beddome, 1870, Madras Month. Journ. Med. Sci., 1, p. 32: Palghat Hills, Madras Presidency, India.

♀ (M. C. Z. 28651) Sevagiri Hills (Brit. Mus.) 1929.

Upper labials 8; lower labials 8. Total length of ♀, 71 (31 + 40) mm. This gecko conforms perfectly to the description of this rather doubtful species.

## CALODACTYLODES AUREUS (Beddome)

*Calodactylus aureus* Beddome, 1870, Madras Month. Journ. Med. Sci., 1, p. 31, pl. ii: Tirupattur Hills, Eastern Ghats, India.

♂, ♀, juv. (M. C. Z. 3918) Madras (R. H. Beddome) N. D.

Upper labials 12-13; lower labials 12-13; in so far as our male has 8 preanal and 8 femoral pores on each side (24 in all), it seems probable that the ten specimens examined by M. A. Smith (1935, p. 79) were all females, for in all other respects this gecko conforms perfectly to Dr. Smith's description. Total length of ♂, 151 (70 + 81) mm.

## HEMIDACTYLUS MACULATUS Duméril &amp; Bibron

*Hemidactylus maculatus* (in part) Duméril & Bibron, 1836, Erpét. Gén., 3, p. 358: Bombay, India.

♀ (M. C. Z. 4148) India (E. Gerrard) 1877.

Upper labials 11-12; lower labials 9; 13 lamellae under the fourth toe. Total length of ♀, 164 (80 + 84) mm.

## HEMIDACTYLUS TURCICUS TURCICUS (Linnaeus)

*Lacerta turcica* Linnaeus, 1758, Syst. Nat. ed. 10, 1, p. 202: "Oriente."

♂ ♂ (M. C. Z. 7140-1) Sind (J. A. Murray) 1908.

Upper labials 8-10; lower labials 8-9; lamellae under fourth toe 9-11; enlarged tubercles on dorsum in 14-16 longitudinal rows; preanal pores 6. Total length of ♂ (M. C. Z. 7140), 108 (49 + 59) mm.

M. C. Z. 7141, though received in exchange from the Indian Museum as *H. persicus*, is apparently conspecific with *turcicus* from the same source.

## HEMIDACTYLUS TRIEDRUS (Daudin)

*Gecko triedrus* Daudin, 1802, Hist. Nat. Rept., 4, p. 155: Type locality unknown.

♂ ♂ (M. C. Z. 3917) Madras (R. H. Beddome) N. D.

♂ (M. C. Z. 4149) No locality data (E. Gerrard) N. D.

♀ juv. (M. C. Z. 7142) Colagelly Hills (R. H. Beddome) 1908.

This last locality presumably refers to the hills around Kollegal, Madras. The gecko was received in exchange from the Indian Museum in 1908.

Upper labials 8-9; lower labials 8-9 (thus approaching the condition found in *H. subtriedrus*); lamellae under fourth toe 8; preano-femoral pores 6-7 on each side. This series shows well the transitions from juvenile to adult coloration. Total length of ♂ (M. C. Z. 3917), 159 (74 + 85) mm.

## HEMIDACTYLUS BROOKII BROOKII Gray

*Hemidactylus brookii* Gray, 1845, Cat. Liz. Brit. Mus., p. 153: Borneo (restricted).

7 ♂ ♂, 4 ♀ ♀, 4 juv. (M. C. Z. 3201, 3441, 3752) N. India (M. M. Carleton), 1872-3.

5 ♂ ♂, 6 ♀ ♀, 4 juv. (M. C. Z. 3234, 3242) Bengal (M. M. Carleton) 1872.

♂ ♂ (M. C. Z. 3244) Kulu Valley (M. M. Carleton) 1871.

5 ♂ ♂, 6 ♀ ♀, 3 juv. (M. C. Z. 3747, 20254-20266) 70 miles s.w. of Ambala (M. M. Carleton) 1879.

juv. (M. C. Z. 4069) Ambala (M. M. Carleton) N. D.

♂ (M. C. Z. 7583) Calcutta (T. Barbour) 1906.

♂, ♀, juv. (M. C. Z. 7585) Lucknow (T. Barbour) 1906.

♀ (M. C. Z. 21928) Central India (Berlin Mus.) 1925.

Upper labials 9-11; lower labials 7-9; preano-femoral pores 8-13 on each side in male, not always interrupted mesially. Total length of ♂ (M. C. Z. 20266), 111 (53 + 58) mm.

## HEMIDACTYLUS RETICULATUS Beddome

*Hemidactylus reticulatus* Beddome, 1870, Madras Month. Journ. Med. Sci., 1, p. 33: Kollegal, India.

♂ (M. C. Z. 49110) Sheveroy Hills (Brit. Mus.) 1946.

Upper labials 9; lower labials 8; lamellae under fourth toe 8; preanal pores 6. Total length of ♂, 66 (35 + 31) mm. This gecko was collected by R. H. Beddome, though not from the type locality.

#### HEMIDACTYLUS FRENATUS Duméril & Bibron

*Hemidactylus frenatus* Duméril & Bibron, 1836, *Erpét. Gén.*, **3**, p. 366: Java.

♂ ♂ (M. C. Z. 7618) Calcutta (T. Barbour) 1906.

Upper labials 10–11; lower labials 8–9; in one example a postmental is almost separated from the lower labials by small scales, thus approaching the condition in *H. garnoti*; lamellae under fourth toe 9–10; femoral pores 29–32 altogether. Total length of ♂, 76+ (43 + 33+) mm., but tip of tail missing.

#### HEMIDACTYLUS LESCHENAULTI Duméril & Bibron

*Hemidactylus leschenaulti* Duméril & Bibron, 1836, *Erpét. Gén.*, **3**, p. 364: Ceylon.

♂ (M. C. Z. 7144) Nilgiri Hills (W. Theobald) 1908.

Upper labials 12; lower labials 9–10; lamellae under fourth toe 11; femoral pores 13 on each side. Total length of ♂, 151 (78 + 73) mm., but tail regenerated.

#### HEMIDACTYLUS FLAVIVIRIDIS Rüppell

*Hemidactylus flaviviridis* Rüppell, 1835, *Neue Wirb. Fauna Abyss.*, p. 18, pl. vi, fig. 2: Massaua Island, Eritrea.

♀ (M. C. Z. 3153) Ambala (M. M. Carleton) 1873.

♂ ♂ (M. C. Z. 3251) Bengal (M. M. Carleton) 1871.

♀ ♀ (M. C. Z. 7607) Jeypore (T. Barbour) 1906.

♂, ♀ ♀ (M. C. Z. 7610) Delhi (T. Barbour) 1906.

Upper labials 13–15; lower labials 9–12 (9 on several of our specimens though 10–12 is given as the range by M. A. Smith, 1935, p. 98); lamellae under the fourth toe 12–14; femoral pores 5–6 on each side. Our series shows a gradual reduction of enlarged tubercles on body and tail, one specimen exhibits numerous enlarged scales on the flanks and series of 6 upon the tail, others show a few rather enlarged tubercles

on the sides and series of only about 4 on the tail, while in some there are no enlargements on the body and the tail series consist of only about 3 enlarged scales. Total length of ♀ (M. C. Z. 3153), 146 (67 + 79) mm.

M. C. Z. 7607 and 7610 (5 examples) were previously identified as *H. frenatus* in Barbour (1912, p. 80).

#### HEMIDACTYLUS BOWRINGII (Gray)

*Doryura bowringii* Gray, 1845, Cat. Liz. Brit. Mus., p. 156: Hongkong or neighborhood.

♀ (M. C. Z. 7145) Sibsagar, Assam (S. E. Peal) 1908.  
5 ♂ ♂, 8 ♀ ♀ (M. C. Z. 7581) Tista Valley, Sikkim (T. Barbour) 1906.

Upper labials 9-11; lower labials 7-9; lamellae under fourth toe 10-11; femoral pores 12-14 on each side in the males; tails on several specimens are somewhat segmented. Total length of largest gecko, 108 (54 + 54) mm., but tail damaged.

M. C. Z. 7145 was received from the Indian Museum as *H. garnoti*. The Sikkim series were taken "from the thatched roofs of Butiya's houses" (Barbour, 1912, p. 80).

#### COSYMBOTUS PLATYURUS (Schneider)

*Stellio platyurus* Schneider, 1792, Amphib. Physiol., 2, p. 30: Type locality unknown.

♀ (M. C. Z. 7146) Samaguting, Assam (Capt. Butler) 1908.

Upper labials 12 (9-11 in M. A. Smith, 1935, p. 103); lower labials 10 (8-9 in Smith, loc. cit.); lamellae under fourth toe 6; outer pair of postmentals not much smaller than the inner pair; no enlarged dorsal tubercles present. Total length of ♀, 116 (54 + 62) mm., but tail damaged.

As shown by G. S. Myers (Copeia, 1943, p. 192) *Platyurus* of Oken, used by M. A. Smith (1935, p. 102, etc.), is preoccupied by *Platyurus* of Ritgen, 1828.

#### GEKKO GECKO (Linnaeus)

*Lacerta gecko*, Linnaeus, 1758, Syst. Nat. (ed. 10), 1, p. 205: "in Indiis."

♂ (M. C. Z. 7238) Samaguting, Assam (Capt. Butler) 1908.

Upper labials 13-14; lower labials 10-11; preanal pores 12. Total length of ♂, 294 (162 + 132) mm.

#### EUBLEPHARIS MACULARIUS (Blyth)

*Cyrtodactylus macularius* Blyth, 1854, Journ. Asiatic Soc. Bengal, **23**, pp. 737-738: Salt Range, Punjab, India.

♀ (M. C. Z. 4268) Ambala (M. M. Carleton) 1877.

♂ (M. C. Z. 7149) Karachi (Karachi Mus.) 1908.

Upper labials 9; lower labials 9-10; preanal pores 12 in male. These specimens, the ♀ being young, show both juvenile and adult color patterns; the spots derived from the crossbars form longitudinal series in the adult male. Total length of ♂, 220 (125 + 95) mm.

### AGAMIDAE

#### DRACO DUSSUMIERI Duméril & Bibron

*Draco dussumieri* Duméril & Bibron, 1837, Erpét. Gén., **4**, p. 456: Malabar, India.

♂ (M. C. Z. 25909) Portuguese India (F. Werner) 1928.

This flying lizard is unusual in having only 5 patagial ribs, 6 being the normal number according to M. A. Smith (1935, p. 143). Total length of ♂, 191 (77 + 114) mm.

#### SITANA PONTICERIANA Cuvier

*Sitana ponticeriana* Cuvier, 1829, Règne Anim. (ed. 2), **2**, p. 43: Pondichéry, India.

♀ (M. C. Z. 7153) Chanda, Central Provinces (Indian Mus.) 1908.

If a typical smaller form is recognizable, then this agamid is referable to it as defined by Dr. Smith (1935, p. 145). Total length of ♀, 138 (45 + 93) mm.

#### JAPALURA TRICARINATA (Blyth)

*Calotes tricarinatus* Blyth, 1853, Journ. Asiatic Soc. Bengal, **22**, p. 650: Sikkim, India.

juv. (M. C. Z. 7158) Darjeeling (J. L. Lister) 1908.

Total length of juvenile, 74 (29 + 45) mm.



## JAPALURA PLANIDORSATA Jerdon

*Japalura planidorsata* Jerdon, 1870, Proc. Asiatic Soc. Bengal, p. 76: Khasi Hills, Assam, India.

♀ topotype (M. C. Z. 7197) Nemotha, near Silchar, Assam (J. Wood-Mason) 1908.

This lizard, typical in all other respects, lacks a fold in front of the shoulder and has the hind limb reaching to just beyond the snout, rather than to the ear or nostril as described by Smith (1935, p. 170). Total length of ♀, 117 (44 + 73) mm.

## JAPALURA VARIEGATA Gray

*Japalura variegata* Gray, 1853, Ann. Mag. Nat. Hist. (2), 12, p. 388: Sikkim, India.

♀ (M. C. Z. 7196) Kurseong, Bengal (N. Annandale) 1908.

This specimen has only a slight blue mark on the gular pouch and shows a handsome, black-edged stripe running from the eye to just above the shoulder. Total length of ♀, 132 (66 + 66) mm., but tail incomplete.

## SALEA HORSFIELDII Gray

*Salea horsfieldii* Gray, 1845, Cat. Liz. Brit. Mus., p. 242: India.

♀ (M. C. Z. 4128) Nilgiri Hills (E. Gerrard) 1877.

♀ (M. C. Z. 7198) Nilgiri Hills (T. C. Jerdon) 1908.

In M. C. Z. 7198 the whitish scales on the flanks are scarcely enlarged and few in number. No. 4128 has a rather larger gular fold and her nuchal crest does not consist of the usual double row described by Smith (1935, p. 178) but more nearly resembles that of a male, though with shorter spines. However, the lizard is a gravid female containing 6 eggs measuring 16 × 8 mm. According to Dr. Smith (1935, p. 179) 3 or 4 is the characteristic number. Total length of ♀ (M. C. Z. 4128), 219 (74 + 145) mm.

## SALEA ANAMALLAYANA (Beddome)

*Lophosalea anamallayana* Beddome, 1878, Proc. Zool. Soc. London, p. 153, pl. xiv: Anaimalai Hills at 6,000 feet, India.

♀ (M. C. Z. 7199) Trivandrum (Trivandrum Mus.) 1908.

This lizard has only about 5 nuchal spines but shows a few fine spines all along the back. Total length of ♀, 234 (83 + 151) mm.

### CALOTES VERSICOLOR (Daudin)

*Agama versicolor* Daudin, 1802, Hist. Nat. Rept., 3, p. 395, pl. xlv: India.

- ♂ (M. C. Z. 1334) Periyakulam, Madura District, Madras (D. C. Scudder) 1865.  
 3 ♂ ♂ (M. C. Z. 3116) Calcutta (W. Theobald) 1866.  
 3 ♂ ♂ (M. C. Z. 3235-6, 3248) Bengal (M. M. Carleton) 1870 & 1872.  
 3 ♂ ♂, ♀ ♀, 8 juv. (M. C. Z. 3237, 3746, 8315-25) 70 miles s.w. of Ambala (M. M. Carleton) 1872 & 1879.  
 ♀, 1 juv. (M. C. Z. 3250, 3253) Kulu Valley (M. M. Carleton) 1872.  
 4 skulls (M. C. Z. 44230-3) near Ambala (M. M. Carleton) 1879.  
 ♀ (M. C. Z. 7201) Calcutta (N. Annandale) 1908.  
 ♂, 2 juv. (M. C. Z. 7638) Tista Valley, Sikkim (T. Barbour) 1907.  
 2 juv. (M. C. Z. 7639) Calcutta (T. Barbour) 1907.  
 ♂ (M. C. Z. 19630) Tellicherry (Basel Mus.) 1924.

Upper labials 10-13 (13 on one side only in two examples); gular scales in several adult males (including M. C. Z. 1334) almost devoid of keels; midbody scale-rows 36-48 (36 in M. C. Z. 8322 only), mostly 44-45. Total length of ♂ (M. C. Z. 1334), 455 (126 + 329) mm.

### CALOTES MARIA Gray

*Calotes maria* Gray (part), 1845, Cat. Liz. Brit. Mus., p. 243: "Afghanistan" and Khasi Hills, Assam, India.

- ♀ topotype (M. C. Z. 7203) Cherrapunji, Khasi Hills (Lt. Bourne) 1908.

Midbody scale-rows 57-59. Total length of ♀, 386 (97 + 289) mm.

### CALOTES JERDONI Günther

*Calotes jerdoni* Günther, 1870, Proc. Zool. Soc. London, p. 778, pl. xlv, fig. A: Khasi Hills, Assam, India.

- ♂ (M. C. Z. 7204) Assam (Assam Government) 1908.

Midbody scale-rows 55; light colored dorso-lateral stripes very distinct. Total length of ♂, 218 (60 + 158) mm.

#### CALOTES MYSTACEUS Duméril & Bibron

*Calotes mystaceus* Duméril & Bibron, 1837, *Erpét. Gén.*, 4, p. 408: Burma.

♂ (M. C. Z. 3117) Calcutta (W. Theobald) 1866.

Midbody scale-rows 49; gular scales rather strongly keeled and mucronate; gular pouch quite large and of a dark purplish color, chiefly on the interstitial skin. Head and back more or less uniform and almost without the spots and lines stated by Dr. Smith (1935, p. 198) to be usually present on the head and flanks. Total length of ♂, 285 (110 + 175) mm.

The locality is probably erroneous as has been previously pointed out in regard to material received from Theobald.

#### CALOTES ELLIOTTI Günther

*Calotes ellioti* Günther, 1864, *Rept. Brit. India*, p. 142: Malabar, India.

♂, ♀, 2 juv. (M. C. Z. 6207) Anaimalai Hills at 4,700 feet (Brit. Mus.) 1888.

Midbody scale rows 57-59; both ♂ and ♀, particularly the latter, are of interest in that the spine on the supercilium is exceedingly minute and the suborbital white spot in one has become depressed and diffused, resulting in a yellowish white upper lip. These lizards are almost intermediate between *C. ellioti* and *C. rouxii*. The ♀, which holds two eggs each about 15 mm. in diameter, is unusually large. Total length of ♀, 262 (71 + 191) mm.

#### PSAMMOPHILUS DORSALIS DORSALIS (Gray)

*Agama dorsalis* Gray, 1831, *App. p. 56* in Griffith, *Anim. King.*: India.

♂ (M. C. Z. 7209) Coonoor, Nilgiri Hills (F. Day) 1908.

Midbody scale rows 142-146; dorsals scarcely keeled or imbricate; hind limb reaches the orbit; tail swollen at base with the vertebral scales enlarged. Total length of ♂, 226 (82 + 144) mm.

## PSAMMOPHILUS DORSALIS BLANFORDANUS (Stoliczka)

*Charasia blanfordana* Stoliczka, 1871, Proc. Asiatic Soc. Bengal, p. 194, and 1872, Journ. Asiatic Soc. Bengal, 41, p. 110, pl. iii, fig. 5: Central India.

♂ (M. C. Z. 4112) Nilgiri Hills (E. Gerrard) 1877.

♀ (M. C. Z. 7210) Chanda, C. P. (W. T. Blanford) 1908.

I consider it advisable to regard *P. d. blanfordanus* as a subspecies of *P. d. dorsalis* for, on the basis of our three specimens, admittedly a very small series, it seems most unlikely that the differences between *dorsalis* and *blanfordanus* are sufficient to justify their ranking as full species. Their very close relationship is particularly noticeable in M. C. Z. 4112 which combines the larger scales and deep antehumeral fold of *blanfordanus* with the shorter hindlimbs and absence of enlarged scales on the flank usually found in *dorsalis*.

Midbody scale-rows 88-93; dorsals keeled and imbricate; superciliary spine and enlarged scales on the flanks present in the ♀, absent in the ♂; hindlimb reaching just beyond the orbit in the ♀ but barely past the tympanum in the ♂, this latter condition is characteristic of *dorsalis* according to Smith (1935, p. 209); base of tail in ♂ greatly swollen and all the scales much enlarged and thickened. Total length of ♂, 193 (71 + 122) mm.

## AGAMA HIMALAYANA (Steindachner)

*Stellio himalayanus* Steindachner, 1867, Reise Novara, Rept., p. 22, pl. i, fig. 8: Ladakh Province, Kashmir, India.

♀ topotype (M. C. Z. 7216) Ladakh, Kashmir (W. T. Blanford) 1878?

Upper labials 11; dorsal scale-rows 8-10. The stomach contains small black seeds. Total length of ♀, 194 (69 + 125) mm.

## AGAMA TUBERCULATA Gray

*Agama tuberculata* Gray, 1827, Zool. Journ., 3, p. 218, and 1830-5, Illus. Indian Zool., 2, pl. lxxiii: "Bengal."

♂ ♂, 3 ♀ ♀ (M. C. Z. 2055) Kulu Valley (M. M. Carleton) 1870.  
2 juv. (M. C. Z. 3145, 3426) Kulu Valley (M. M. Carleton) 1871.

10 eggs (M. C. Z. 4295) Kulu Valley (M. M. Carleton) 1877.

Upper labials 10-13. Total length of an unusually large ♂, (M. C. Z. 2055) 290\* (125 + 165\*) mm., the tail being incomplete.

Of these lizards the Rev. M. M. Carleton writes that they "abound in the sub- and mid-Himalayas, but are not found in the plains or low hills. They live in old stone walls, ledges of loose rocks and often frequent the walls of native houses in the hills, but never intrude within the house like the common house lizard. They are preyed upon by house cats and the large hill snake. The young of this lizard are eaten by the large hill crow. This lizard at some seasons of the year is nearly covered with lice or a large parasite resembling sheep ticks . . . these parasites appear only later in the season."

The ten eggs, which measure from 24 × 15 mm. to 23 × 14 mm. were originally identified as those of *Calotes versicolor*. However, a careful examination of the well developed embryo shows that they are apparently the eggs of *Agama tuberculata*.

#### AGAMA AGRORENSIS (Stoliczka)

*Stellio agorensis* Stoliczka, 1872, Proc. Asiatic Soc. Bengal, p. 128: Sussel Pass, Hazara District, northwest Punjab, India.

♀ (M. C. Z. 7217) Kashmir (Indian Mus.) 1908.

Dorsal scales in two strips 5-6 scales wide, separated by a vertebral series of small scales about 3 rows wide, towards the occiput the dorsal strips converge to form a single row of enlarged scales; hind limb reaches only just beyond the tympanum (not to the eye or tip of snout as described by Smith, 1935, p. 216). There are three very distinct, dark olive, longitudinal lines on the back which become paler posteriorly. Total length of ♀, 226 (74 + 152) mm.

#### AGAMA MELANURA (Blyth)

*Laudakia (Ploceoderma) melanura* Blyth, 1854, Journ. Asiatic Soc. Bengal, 23, p. 738: ? Salt Range, Punjab, India.

♂, juv. (M. C. Z. 7218-9) Sind (J. A. Murray) 1908.

Dorsal scales strongly keeled in both examples. The juvenile shows well defined dark reticulations on the rather pale olive back and flanks. Its stomach contains the remains of flowers and what appear to be fragments of insects. Total length of ♂ (M. C. Z. 7218), 397 (115 + 282) mm.

## AGAMA NUPTA de Filippi

*Agama nupta* de Filippi, 1843, Giorn. Ist. Lomb. Bib. Ital., 6, p. 407: Persepolis, Persia.

♂ (M. C. Z. 7220) Baluchistan (W. T. Blanford) 1908.

Median nuchal crest barely noticeable; callous preanal scales mostly in two rows; chest and limbs almost black (apparently a seasonal coloration according to Dr. Smith, 1935, p. 220). The stomach contains flowers, flies, and other insect remains. Total length of ♂, 390+ (156 + 234\*) mm., the tail being partly regenerated.

## AGAMA AGILIS Olivier

*Agama agilis* Olivier, 1807, Voy. Emp. Otho., 4, p. 394, and Atlas (12), pl. xxix, fig. 2: neighborhood of Baghdad, Persia.

juv. (M. C. Z. 7212) Sind (Indian Mus.) 1908.

Hindlimb reaches almost to the nostril; a very distinct vertebral and two faint lateral series of light colored oval spots crossing the dark crossbars. Total length of juv., 157 (67 + 90) mm.

## AGAMA RUBRIGULARIS (Blanford)

*Trapelus rubrigularis* Blanford, 1875, Proc. Asiatic Soc. Bengal, p. 233, and 1876, Journ. Asiatic Soc. Bengal, 45, p. 23, pl. i, fig. 1: foot of the Khirthar Hills, Western Sind, India.

juv. (M. C. Z. 7213) Sind (J. A. Murray) 1908.

Although young, this lizard shows a row of 12 preanal pores with a few more forming an anterior series, which appear to be secretory. Total length, 84 (41 + 43) mm.

## AGAMA MINOR Hardwicke &amp; Gray

*Agama minor* Hardwicke & Gray, 1827, Zool. Journ., 3, p. 218: "Chittagong", India.

♀ (M. C. Z. 7211) Kathiawar (F. Fedden) 1908.

Midbody scale-rows 56. Total length of ♀, 103 (56 + 47) mm.

## PHRYNOCEPHALUS SCUTELLATUS (Olivier)

*Agama scutellata* Olivier, 1807, Voy. Emp. Otho., **3**, p. 110 (ed. 4), **5**, p. 196 (ed. 8), and Atlas, pl. xlii, fig. 1: near Ispahan, Persia.

♀ (M. C. Z. 7221) Baluchistan (F. P. Maynard & A. H. MacMahon) 1908.

Outside edges of third and fourth toes only feebly denticulate; hind limb reaches the snout (not "about the level of the eye" as in Smith, 1935, p. 230). Total length of ♀, 98 (40 + 58) mm.

## PHRYNOCEPHALUS THEOBALDI Blyth

*Phrynocephalus theobaldi* Blyth, 1863, Journ. Asiatic Soc. Bengal, **32**, p. 90: Lake Tsho-marari, Rupshu Province, Tibet.

♀ (M. C. Z. 4153) India (E. Gerrard) 1877,  
♂, ♀ (M. C. Z. 7222-3) Indus Valley, Ladakh, Kashmir (F. Stoliczka) 1908.

Hind limb of the ♂ reaches the eye (to the axilla or region of the ear is characteristic according to Dr. Smith, 1935, p. 231). In M. C. Z. 7223 the black patch on the belly is very extensive, covering most of the throat as well as the abdomen. Total length of ♀ (M. C. Z. 7223), 113 (53 + 60) mm.

## PHRYNOCEPHALUS ORNATUS Boulenger

*Phrynocephalus ornatus* Boulenger, 1887, Cat. Liz. Brit. Mus., **3**, p. 496: between Nushki and the Helmand River, Afghan-Baluchistan frontier.

♀ (M. C. Z. 7224) Baluchistan (F. P. Maynard & A. N. MacMahon) 1908.

Only 3 transverse bars on underside of tail (4 or 5 are constant for this species according to Dr. Smith, 1935, p. 233). Total length of ♀, 85 (36 + 49) mm.

## PHRYNOCEPHALUS MACULATUS Anderson

*Phrynocephalus maculatus* Anderson, 1872, Proc. Zool. Soc. London, p. 389: Awada, Shiraz, Persia.

♂ (M. C. Z. 7225) Baluchistan (F. P. Maynard & A. H. MacMahon) 1908.

Although, I believe, undoubtedly referable to *P. maculatus*, this specimen is unusual in having the nasal shields separated by 3 scales (1 or 2 being considered diagnostic by Dr. Smith, 1935, pp. 229 and 233); inner edges of the third and fourth toes show almost as much denticulation as the outside edges. Total length of this exceptionally large ♂, 233 (94 + 139) mm.

#### PHRYNOCEPHALUS EUPTILOPUS Alcock & Finn

*Phrynocephalus euptilopus* Alcock & Finn, 1896, Journ. Asiatic Soc. Bengal, 65, p. 556: Darband, at 3,000 feet, Baluchistan, India.

♀ cotype (M. C. Z. 7227) Afghan-Baluchistan frontier (F. P. Maynard & A. H. MacMahon) 1908.

The black spots on the head are symmetrically and elegantly arranged; there is a single black bar underneath the tail, anterior to the black tip; the tail length is not commonly less than that of the body. Total length of ♀, 94 (48 + 46) mm.

#### PHRYNOCEPHALUS LUTEOGUTTATUS Boulenger

*Phrynocephalus luteoguttatus* Boulenger, 1887, Cat. Liz. Brit. Mus., 3, p. 497: between Nushki and the Helmand River, Afghan-Baluchistan frontier.

♀ (M. C. Z. 7228) Baluchistan (F. P. Maynard & A. H. MacMahon) 1908.

Total length of ♀, 73 (37 + 36) mm.

#### UROMASTIX HARDWICKII Gray

*Uromastix hardwickii* Gray, 1827, Zool. Journ., 3, p. 219: Kanauj District, United Provinces, India.

3 ♂ ♂, 3 ♀ ♀ (M. C. Z. 2530) Kulu Valley (M. M. Carleton) 1870.  
 ♂ (M. C. Z. 6839) No locality (T. Barbour) 1903.  
 ? ♀ (M. C. Z. 7230) Karachi (Karachi Mus.) 1908.

Femoral pores 12-16; the Kulu Valley series conform to the typical variety (longest specimen 217 + 84 mm.) with only a few enlarged scales, while the other two lizards have many enlarged dorsal scales and are larger. Total length of ♂ (M. C. Z. 6839), 400 (234 + 166) mm.



## CHAMAELEONIDAE

## CHAMAELEO ZEYLANICUS Laurenti

*Chamaeleo zeylanicus* Laurenti, 1768, Syn. Rept., p. 46: based on Seba, 1735, Thesauri, 1, pl. lxxxii, fig. 3: Type locality unknown.

? ♂ (M. C. Z. 7950) Western Ghats near Bombay (T. Barbour) 1912.

♀ (M. C. Z. 38598) Bangalore (Indian Mus.) 1935.

♀ (M. C. Z. 38599) Madras (Indian Mus.) 1935.

♀ (M. C. Z. 39895) Teynampet, Madras (Madras Mus.) 1936.

♂ ♂, ♀ (M. C. Z. 39896-8) Madras (Madras Mus.) 1936.

The generic name *Chamaeleo* Laurenti, 1768, is used in preference to *Chamaeleon* Gronow, allegedly 1763, because of Opinion 89 of the International Rules of Zoological Nomenclature which "declared eliminated from consideration as respects their systematic names as of their respective dates: Gronow 1763, . . ."

Both M. C. Z. 38598-9 are gravid, the former with 12 slightly developed ova, the latter with 17 eggs each about 11 mm. in diameter. Total length of ♀ (M. C. Z. 38598), 360 (165 + 195) mm.

## SCINCIDAE

## MABUYA BIBRONII (Gray)

*Tiliqua bibronii* Gray, 1838, Ann. Mag. Nat. Hist., 2, p. 290: Type locality unknown.

1 (M. C. Z. 3925) Madras (R. H. Beddome) 1876.

1 (M. C. Z. 7170) Temple of Rameswaran, Pamban Island, Madras. (N. Annandale) 1908.

Midbody scale-rows 28-30; lamellae under fourth toe 18 in M. C. Z. 3925 while M. C. Z. 7170 had lost all its claws in life since the stumps are completely healed. Total length of M. C. Z. 7170, 110 (47+63) mm.

## MABUYA MACULARIA (Blyth)

*Euprepes macularius* Blyth, 1853, Journ. Asiatic Soc. Bengal, 22, p. 652: ?Rangpur, Bengal, India.

6 (M. C. Z. 3926) Madras (R. H. Beddome) 1876.

1 (M. C. Z. 7173) Ellora, Hyderabad (W. T. Blanford) 1908.

Midbody scale-rows 28-30; lamellae under fourth toe 14-16. In coloration the Madras series mostly conform to typical South Indian skinks corresponding to Form 1 of M. A. Smith (1935, p. 265) though distinct lateral stripes are lacking in two of them which consequently approach Form 2 characteristic of North India. The Ellora specimen, though faded, apparently agrees with Form 2. Total length of M. C. Z. 3926, 147 (65 + 82) mm.

#### MABUYA CARINATA (Schneider)

*Scincus carinatus* Schneider (part), 1801, Hist. Amphib., 2, p. 183: Type locality unknown.

1 (M. C. Z. 3919) Madras (R. H. Beddome) 1876.

1 (M. C. Z. 7172) Botanical Gardens, Sibpur, Bengal (J. Anderson) 1908.

2 (M. C. Z. 7660) Calcutta (T. Barbour) 1907.

Midbody scale-rows 30-32; lamellae under fourth toe 15-17; both the Barbour specimens are atypical in having the prefrontals definitely separated. Total length of M. C. Z. 7660, 211 (85 + 126) mm.

#### MABUYA MULTIFASCIATA MULTIFASCIATA (Kuhl)

*Scincus multifasciatus* Kuhl, 1820, Beitr. Zool. Vergl. Anat., p. 126: Type locality unknown.

1 (M. C. Z. 3118) Calcutta (W. Theobald) 1864.

Midbody scale-rows 30; lamellae under fourth toe 16-17. Total length, 259 (100 + 159) mm.

#### MABUYA BEDDOMII (Jerdon)

*Euprepes beddomii* Jerdon, 1870, Proc. Asiatic Soc. Bengal, p. 73: Mysore, India.

1 (M. C. Z. 7171) Berar (J. Anderson) 1908.

Midbody scale-rows 30; lamellae under fourth toe 13-15. Total length, 121 (52 + 69) mm.

## MABUYA TRIVITTATA (Hardwicke &amp; Gray)

*Tiliqua trivittata* Hardwicke & Gray, 1827, Zool. Journ., **3**, p. 227, and 1829, Illus. Indian Zool., **2**, pl. lxxvi: Dum-Dum, Bengal, India.

1 (M. C. Z. 8362) 70 miles s. w. of Ambala (M. M. Carleton) 1879.

Midbody scale-rows 36, the dorsals feebly tricarinate (instead of with 5 or 7 strong keels); lamellae under fourth toe 14-15. Total length, 140 (60 + 80) mm.

## LYGOSOMA (SPHENOMORPHUS) INDICUM INDICUM (Gray)

*Hinulia indica* Gray, 1853, Ann. Mag. Nat. Hist. (2), **12**, p. 388: Himalayas, India.

1 (M. C. Z. 7176) Darjeeling (J. Gammie) 1908.

Midbody scale rows 35; lamellae under fourth toe 19. Total length, 179 (85 + 94) mm., but tail regenerated.

## LYGOSOMA (SPHENOMORPHUS) MACULATUM (Blyth)

*Lissonota maculata* Blyth, 1853, Journ. Asiatic Soc. Bengal, **22**, p. 653: Assam, India.

1 (M. C. Z. 7177) Darjeeling (J. Gammie) 1908.

Midbody scale-rows 40; lamellae under fourth toe 18. Total length, 141 (56 + 85) mm.

## LYGOSOMA (SPHENOMORPHUS) DUSSUMIERI Duméril &amp; Bibron

*Lygosoma dussumieri* Duméril & Bibron, 1839, Erpét. Gén., **5**, p. 725: Malabar, India.

2 (M. C. Z. 3924) Madras (R. H. Beddome) 1876.

Midbody scale-rows 40, the dorsals considerably larger than the laterals thus approaching the condition of *L. (S.) maculatum*; lamellae under fourth toe 21-22. Total length, 131 (50 + 81) mm.

## LYGOSOMA (LEIOLOPISMA) REEVESII REEVESII (Gray)

*Tiliqua reevesii* Gray, 1838, Ann. Mag. Nat. Hist., 2, p. 292: China.

1 (M. C. Z. 3119) Calcutta (W. Theobald) 1866.

Midbody scale-rows 22; lamellae under fourth toe 18-19. This skink, apparently the first of its species to be recorded from India proper, differs in some respects from the description of the typical form given by M. A. Smith (1935, p. 296); the distance between the end of the snout and the forelimb is contained once and a quarter (not once and a half to nearly twice) in the distance between the axilla and groin; the limbs are rather longer, the adpressed hindlimb reaching practically to the elbow of the forelimb (not just failing to meet or reaching as far as the wrist). In coloration the black stripe along the upper half of the flank is broken up to form a row of dark splotches. This specimen was identified as *Lygosoma* (*Sphenomorphus*) *maculatus* by Theobald, consequently *reevesii* was omitted from his 1876, *Descriptive Catalogue of the Reptiles of British India*. Total length, 106 (43 + 63) mm.

## LYGOSOMA (LEIOLOPISMA) HIMALAYANUM (Günther)

*Eumeces himalayanus* Günther, 1864, Rept. Brit. India, p. 86, pl. x, fig. H: Western Himalayas, India.

1 (M. C. Z. 3154) Ambala (M. M. Carleton) 1873.

9 (M. C. Z. 3240-1, 3247, 3249, 4064) Kulu Valley (M. M. Carleton) 1871 & 1876.

Midbody scale-rows 26-30 (32 in M. C. Z. 3249); lamellae under fourth toe 14-17 (19-20 in M. C. Z. 3249). Three lizards in this series are of especial interest in being intermediate between *L. (L) himalayanum* and *L. (L) ladacense*. M. C. Z. 3154 and one of the M. C. Z. 3240 series are typically *himalayanum* except in that the distance between the tip of the snout and the axilla is *not* contained  $1\frac{1}{2}$ - $1\frac{3}{4}$  times in the distance from axilla to groin as in *himalayanum*, but  $1\frac{1}{3}$ - $1\frac{1}{2}$  times as in *ladacense*, with which they also agree in the adpressed hindlimb reaching the wrist instead of failing to meet or just overlapping as in *himalayanum*.

Additional intermediate characters are displayed by M. C. Z. 3249 in which the prefrontals are just in contact, a condition normal in *ladacense* but rare in *himalayanum*; its midbody scale-rows are 32 (26-30 in *himalayanum*, 32-38 in *ladacense*) while the lamellae under

the fourth toe number 19-20 (14-20 in *himalayanum*, 20-24 in *ladacense*). These three aberrant skinks, especially M. C. Z. 3249, seem similar to the types of *L. (L) blythi* as described by M. A. Smith (1935, p. 300) who refers them to the synonymy of *himalayanum* and further suggest that perhaps *ladacense* should be only subspecifically distinguished from *himalayanum*.

With the Kulu lizards is a rather illegible manuscript note by the collector stating that they were collected near Ploch (?) village in the eastern part of Kulu Valley in August, 1871. Total length of M. C. Z. 3247, 147 (71 + 76) mm.

#### LYGOSOMA (LEIOLOPISMA) HIMALAYANUM TRAGBULENSE Alcock

*Lygosoma himalayanum* var. *tragbulense* Alcock, 1898, Rep. Nat. Hist. Results Pamir Bound. Comm., p. 36, pl. ii: Tragbul (as Tragbal) Pass, Kashmir, India.

paratype (M. C. Z. 7181) Tragbul Pass, Gilgit Road (G. M. Giles) 1908.

I have been unable to find the Tragbul Pass on any map, but the Royal Geographical Society informs me that it lies in Lat. 34° 29' N., Long. 74 40' E., 30 miles N.N.W. of Srinagar, and is therefore in Kashmir, rather than Afghanistan, so falls within the area covered by this report though this subspecies is not mentioned in Dr. Malcolm Smith's volume on the lizards of British India (1935).

Midbody scale rows 26; lamellae under fourth toe 18-19 (21 in the original description). In coloration our paratype of this rare skink conforms perfectly to Alcock's illustration, showing 6 very clearly defined, longitudinal, dorsal, whitish stripes and the flanks flecked with whitish. Alcock apparently included these lateral markings as stripes for he describes the types as having 10 or 11 dorsal stripes. Total length 110 (50 + 60) mm.

#### LYGOSOMA (LEIOLOPISMA) LADACENSE (Günther)

*Eumeces ladacensis* Günther, 1864, Rept. Brit. India, p. 88, pl. x, fig. 1: Ladakh, Kashmir, India.

topotype (M. C. Z. 7182) Kharu, Ladakh (F. Stoliczka) 1908.

Midbody scale-rows 36; lamellae under fourth toe 20. Total length, 134 (49 + 85) mm.

## LYGOSOMA (LEIOLOPISMA) SIKKIMENSE (Blyth)

*Mocoo sikkimensis* Blyth, 1853, Journ. Asiatic Soc. Bengal, **22**, p. 652: Sikkim, India.

1 (M. C. Z. 7179) Saoreni, near Darjeeling (A. W. Alcock) 1908.

Midbody scale-rows 24; lamellae under fourth toe 15. Total length, 98 (48 + 50) mm., but tail regenerated.

## LYGOSOMA (LEIOLOPISMA) TRAVANCORICUM (Beddome)

*Mocoo travancorica* Beddome (part), 1870, Madras Month. Journ. Med. Sci., p. 34: Travancore Hills, India.

1 (M. C. Z. 6216) Anaimalai Hills, at 4,700 feet (Brit. Mus.) 1888.

Midbody scale-rows 24; lamellae under fourth toe 18-19. Total length, 153 (54 + 99) mm.

## LYGOSOMA (LEIOLOPISMA) BILINEATUM BILINEATUM (Gray)

*Mocoo bilineatum* Gray, 1846, Ann. Mag. Nat. Hist., **18**, p. 430: Nilgiri Hills, India.

2 topotypes (M. C. Z. 4130) Nilgiri Hills (E. Gerrard) 1879.

1 (M. C. Z. 7183) No locality (R. H. Beddome) 1908.

Midbody scale-rows 24; lamellae under fourth toe 17-19; distance between end of snout and forelimb is contained scarcely one and one-third times in the distance between axilla and groin in the juvenile topotype (M. C. Z. 4130) instead of the one and a half to twice usual in this subspecies (Smith, 1935, p. 306). My reasons for employing trinomials are explained below. Total length of M. C. Z. 7183, 135 (50 + 85) mm.

## LYGOSOMA (LEIOLOPISMA) BILINEATUM LATERIMACULATUM Boulenger

*Lygosoma laterimaculatum* Boulenger, 1887, Cat. Liz. Brit. Mus., **3**, p. 260, pl. xviii, fig. 2: Sivagiri Ghat, Tinnevely, India.

6 (M. C. Z. 3923, 4782) near Madras (R. H. Beddome) N. D.

All six lizards are more or less intermediate between *L. (L.) bilineatum* and *L. (L.) laterimaculatum* as defined by Malcolm Smith (1935, pp. 305-6), but I consider them closer to *laterimaculatum* since they agree with it in the important characters of midbody scale-rows and coloration. A tabular exposition of the characters follows:

Character	<i>bilineatum</i> as in Smith	<i>laterimaculatum</i> as in Smith	M. C. Z. material
Midbody scale-rows	22-26	26-28	26-28
Times the distance between end of snout and forelimb is contained in that from axilla to groin	1½-2	1½-1⅔	1½-1⅔
Lobules on ear-opening	2 or 3 very small ones.	sometimes a few granules but no lobules.	always a few granules, usually a few very small lobules.
Prenals	4 large ones longer than broad.	2 large ones broader than long.	2 large ones and 2 slightly enlarged, most broader than long, a few longer than broad.
Adpressed limbs	overlap in the young, fail to meet in adult.	leg reaches to wrist or elbow.	fail to meet in two, just meet in two, leg nearly reaches wrist in two.
Lamellae under fourth toe	16-20	20-25	17-21 (21 in one skink only)
Color	sides not spotted with black.	sides spotted with black.	sides spotted with black.
Size: snout to vent	65 mm.	36 mm.	30, 46, 50, 52, 56, & 69 mm.

Thus of the eight diagnostic characters listed, our specimens tend to agree with *bilineatum* in four, with *laterimaculatum* in two, and to be intermediate in two. As the relationship appears to be subspecific rather than specific I employ trinomials. Total length of M. C. Z 3923, 183 (69 + 114) mm.

### RIOPA PUNCTATA (Gmelin)

*Scincus punctatus* Gmelin, 1799, Hist. Amphib., p. 197, based on Seba, 1735, Thesauri, 1, pl. xii, fig. 6: Type locality unknown.

15 (M. C. Z. 3238, 3748) 70 miles s. w. of Ambala (M. M. Carleton) 1872-4.

3 (M. C. Z. 3243) Bengal (M. M. Carleton) 1872.

13 (M. C. Z. 3928) Madras (R. H. Beddome) 1876.

1 (M. C. Z. 7184) Kolassy, Purnea (J. Anderson) 1908.

Midbody scale-rows 24-26; dorsal scales between the parietals and an imaginary line joining the hind limbs posteriorly 69-76 with 66

in one example; lamellae under fourth toe 11-15 (11-14 given by M. A. Smith, 1935, p. 318); upper labials 6, fourth longest and beneath the eye in one Ambala skink and on one side only of another, otherwise the normal 7 upper labials with the fifth longest as described by M. A. Smith.

In the eight youngest skinks (from all localities) the body is less elongated than in the adult, the distance between the end of the snout and the forelimb being contained in the distance between the axilla and groin less than twice (twice to two and three quarter times being normal). Total length of M. C. Z. 3928, 142 (68 + 74) mm.

M. C. Z. 7184 was received as *R. albopunctata* (Gray) and agrees with Dr. Smith's (1935, p. 316) description of that species in having a scaly lower eyelid. Since, however, this character appears variable in *Riopa*, and the other features distinguishing *albopunctata* from *R. punctata* are rather trivial, I doubt whether *albopunctata* should be considered as distinct.

#### RIOPA GUENTHERI (Peters)

*Eumeces guentheri* Peters, 1879, Sitzb. Ges. Naturf. Freunde Berlin, p. 36: East India as "Ostindien."

1 (M. C. Z. 4131) S. Kanara Ghats, Bombay (E. Gerrard) 1877.

1 (M. C. Z. 7186) Travancore (R. H. Beddome) 1908.

Midbody scale-rows 24-26; dorsal scales between the parietals and an imaginary line joining the hind limbs posteriorly 90-91; lamellae under fourth toe 12. Total length of M. C. Z. 7186, 172 (100 + 72) mm., but tail regenerated.

#### RISTELLA TRAVANCORICA (Beddome)

*Ateuchosaurus travancoricus* Beddome (part), 1870, Madras Month. Journ. Med. Sci., p. 33: Western Ghats, India.

1 (M. C. Z. 7190) Tinnevely Hills (R. H. Beddome) 1908.

Midbody scale-rows 24; throat handsomely marked with 9 rows of almost confluent, dark brown spots. Total length 76\* (42 + 34\*)mm.

#### RISTELLA BEDDOMII Boulenger

*Ristella beddomii* Boulenger, 1887, Cat. Liz. Brit. Mus., 3, p. 359, pl. xxix, fig. 4, and 1890, Fauna Brit. India, p. 216: Southwest India.

2 topotypes (M. C. Z. 3921) Southwest India (R. H. Beddome) 1876.



Midbody scale-rows 26; the adpressed limbs fail to meet in these young examples. It seems probable that these topotypes were originally part of the series collected by Col. Beddome of which some became the types of Boulenger's new species. Total length of larger lizard, 45+ (35 + 10+) mm.

#### EUMECES TAENIOLATUS (Blyth)

*Eurylepis taeniolatus* Blyth, 1854, Journ. Asiatic Soc. Bengal, **23**, p. 470: Salt Range, Punjab, India.

2 (M. C. Z. 4370, 4493) near Ambala (M. M. Carleton) 1878 & 1880.

1 (M. C. Z. 7192) Karachi (Indian Mus.) 1908.

Midbody scale-rows 19-21, 19 in M. C. Z. 4370 appears to be unusual as 21-23 is the range given by M. A. Smith (1935, p. 342); dorsal scales in longitudinal series 72-74. Total length of M. C. Z. 4370, 268+ (132 + 136+) mm.

#### OPHIOMORUS TRIDACTYLUS (Blyth)

*Sphenocephalus tridactylus* Blyth, 1853, Journ. Asiatic Soc. Bengal, **22**, p. 654: Afghanistan.

1 (M. C. Z. 7193) Baluchistan (F. P. Maynard & A. H. MacMahon) 1908.

Midbody scale-rows 20 instead of 22, a condition otherwise known only from a single Punjab example according to Dr. Smith (1935, p. 347). Total length, 140 (91 + 49) mm.

### LACERTIDAE

#### ACANTHODACTYLUS CANTORIS CANTORIS Günther

*Acanthodactylus cantoris* Günther, 1864, Rept. Brit. India, p. 73: Ramnagar, India.

♀ (M. C. Z. 7159) Karachi (Karachi Mus.) 1908.

Midbody dorsals in 31 longitudinal rows, enlarged dorsals in 16; ventrals in 12; transverse rows of ventrals 30; transverse rows of gulars 30; femoral pores 18 on each side. Total length of ♀, 178 (66 + 112) mm.

## CABRITA LESCHENAULTII (Milne-Edwards)

*Lacerta leschenaultii* Milne-Edwards, 1829, Ann. Sci. Nat. Paris, **16**, pp. 80, 86, pl. vi, fig. 9: Coromandel Coast, India.

- ♂, ♀, juv. (M. C. Z. 3922) Madras (R. H. Beddome) N. D.  
 juv. (M. C. Z. 4137) Ganjam (E. Gerrard) 1877.  
 juv. (M. C. Z. 7161) Ellora (W. T. Blanford) 1908.

Midbody scale-rows 40-54 (42-50 is given for this species by M. A. Smith, 1935, p. 375); transverse rows of ventrals 24-28; femoral pores 12-16 on each side; one lizard (M. C. Z. 4137) shows the unusual condition of having the fourth (rather than the fifth) upper labial enlarged and below the eye. Total length of ♂, 149 (49 + 100) mm.

## OPHIOPS JERDONI (Blyth)

*Ophiops jerdoni* Blyth, 1853, Journ. Asiatic Soc. Bengal, **22**, p. 653: Mhow, Indore, Central Provinces, India.

- ♂ (M. C. Z. 7160) Agra (P. Hodgart) 1908.  
 juv. (M. C. Z. 7162) Cutch (Indian Mus.) 1908.

Midbody scale-rows 28-30; transverse rows of ventrals 24; femoral pores 8-10 on each side; one lizard (M. C. Z. 7160) is unusual in lacking any properly developed tympanic shield, commonly present in this species. Total length of ♂, 103 (40 + 63) mm.

## OPHIOPS MICROLEPIS (Blanford)

*Ophiops (Gymnops) microlepis* Blanford, 1870, Journ. Asiatic Soc. Bengal, **39**, p. 351, pl. xv, figs. 1-5: Korba, Bilaspur, Central Provinces, India.

- ♂ (M. C. Z. 7163) Cutch (Indian Mus.) 1908.

Midbody scale-rows 59; transverse rows of ventrals 25; femoral pores 12 on each side. Total length of ♂, 156 (55 + 101) mm.

## EREMIAS VELOX PERSICA Blanford

*Eremias persica* Blanford, 1874, Ann. Mag. Nat. Hist. (4), **14**, p. 370: near Ispahan, Persia.

- ♀ (M. C. Z. 7165) Quetta, Baluchistan (Col. St. John) 1908.

Midbody dorsals 58; midbody ventrals 14; transverse rows of ventrals 30; transverse rows of gulars 32; femoral pores 18 on each side; the 8th (instead of the 7th) upper labial is below the eye on one side. Total length of ♀, 203 (80 + 123) mm.

#### EREMIAS APOROSCELES (Alcock & Finn)

*Scapteira aporosceles* Alcock & Finn, 1896, Journ. Asiatic Soc. Bengal, 65, p. 559, pl. xiii: West of Robat 1, near Nushki, Baluchistan, India.

♂ cotype (M. C. Z. 7169) West of Robat 1 (F. P. Maynard & A. H. MacMahon) 1895.

Midbody dorsals 76; midbody ventrals 20; transverse rows of ventrals 36; transverse rows of gulars 33; femoral pores absent. Total length of ♂, 165 (63 + 102) mm.

#### EREMIAS GUTTULATA WATSONANA Stoliczka

*Eremias (Mesalina) watsonana* Stoliczka, 1872, Proc. Asiatic Soc. Bengal, p. 86: between Karachi and Sukkur, Sind, India.

♀ (M. C. Z. 7164) Gwadar, Baluchistan (W. T. Blanford) 1872.

Midbody dorsals 47; midbody ventrals 8; transverse rows of ventrals 32; transverse rows of gulars 24; femoral pores 11 on each side. Total length of ♀, 102 (41 + 61) mm.

### ANGUIDAE

#### OPIHISAURUS GRACILIS (Gray)

*Pseudopus gracilis* Gray, 1845, Cat. Liz. Brit. Mus., p. 56: Khasi Hills, Assam, India.

topotype (M. C. Z. 7231) Cherrapunji, Khasi Hills (Capt. Godwin-Austen) 1908.

Midbody dorsals 14; transverse rows of dorsals counted in the length of the dorsal fold 92; midbody ventrals 10. The coloration is unusual in that the dark lateral band is almost lacking except on the tail where it is indistinct; the transverse rows of dark spots are more or less fused to form 20 crossbars on the body, each covering from

7-10 dorsal scales; the tail shows the more common dark spots or blotches. Total length, 274 (139 + 135) mm, but the tail is regenerated.

## VARANIDAE

### VARANUS BENGALENSIS BENGALENSIS (Daudin)

*Tupinambis bengalensis* Daudin, 1802, Hist. Nat. Rept., 3, p. 67: Bengal, India.

juv. (M. C. Z. 2119) Bengal (Paris Mus.) 1865.

juv. (M. C. Z. 3199) Northern India (M. M. Carleton) 1873.

2 skins (M. C. Z. 3231-2) Bengal (M. M. Carleton) 1871.

3 juv. (M. C. Z. 3745, 8307-8) near Ambala (M. M. Carleton) 1873-4.

juv. (M. C. Z. 4127) Malabar (E. Gerrard) 1877.

Transverse rows of abdominal scales from gular fold to anus 122-136. Total length of largest skin (M. C. Z. 3232), 760 (420 + 340) mm.

In a manuscript note accompanying the Ambala specimens the collector states that these monitors "live in old trees and are found during the cold season in the hollows of the trees and branches. It attains the size of 36 inches or more. It is the great enemy of birds that build their nests in trees."

For the nomenclature of this species I have followed Robert Mertens, 1942, "Die Familie der Warane (Varanidae), III. Taxonomie." in Abhand. Senckenberg. Naturf. Ges., No. 466, pp. 237-391.

## TYPHLOPIDAE

### TYPHLOPS LOVERIDGEI spec. nov.

*Type.* Museum of Comparative Zoölogy, No. 2283, probably from North India since received from the Rev. M. M. Carleton in 1873. Most of Carleton's collections came from Ambala or the Kulu Valley, Punjab, but this snake was donated with the poorly localized *T. d. diardi* listed below.

*Diagnosis.* Differs from *T. floweri* Boulenger, of Siam, in that the preocular is as broad as (not narrower than) the ocular, which is in contact with the third and fourth (not third only) labials; it also lacks the small semi-subocular of *floweri* which in that species sepa-

rates the ocular from the fourth labial. It further differs from *floweri* in range and color.

Differs from *T. porrecta* Stoliczka in having the preocular in contact with the third (not second and third) labial; nasal completely (not incompletely) divided; diameter of body 83 (not 49 to 60) times into the total length.

*Description.* Snout rounded, prominent; rostral breadth about two-fifths the width of the head, not extending to an imaginary line connecting the oculars; nostrils lateral; nasals separated behind the rostral, completely divided, the cleft proceeding from the preocular; the preocular as broad as the ocular and in contact with the third labial only; ocular in contact with the third and fourth labials; eye hidden; four upper labials. Midbody scale-rows 18. Diameter of body included 83 times in the total length. Tail ending in a point.

*Color.* Above, uniform light brown. Below, paler, especially around the mouth and anus.

*Size.* Total length of type, 208 mm.; head and body 204.5 mm.; tail 3.5 mm.; diameter at midbody 2.5 mm.

The following key can be used to distinguish the three forms:

Snout rounded; rostral one-third to one-half width of head; nasals separated behind rostral; midbody scale-rows 18.

1. Preocular narrower than ocular, in contact with second and third labials, ocular in contact with third labial only, being separated from fourth by a small semi-subocular; nasal completely divided; diameter of body 85 times in total length; range: Siam; color blackish with snout and anal region yellowish. . . . . *floweri*

Preocular as broad as ocular; ocular in contact with third and fourth labials; color paler than in *floweri*. 2

2. Preocular in contact with third labial only; nasal completely divided; diameter of body 83 times in total length; range: ? northern India. . . . . *loveridgei*

Preocular in contact with second and third labials; nasal incompletely divided; diameter of body 49-60 times in total length; range: Himalayas and Burma south to Ceylon (fide Malcolm Smith, 1943, p. 46), . . . . *porrecta*

Though approaching *mira* and *ceylonica* the new species is not closely related to either.

*Remarks.* I take very great pleasure in naming this new *Typhlops* after Mr. Arthur Loveridge in appreciation of his generous help and as a token of personal esteem.

## TYPHLOPS PORRECTA Stoliczka

*Typhlops porrectus* Stoliczka, 1871, Journ. Asiatic Soc. Bengal, 40, p. 426, pl. xxv, figs. 1-4: Bengal, India.

6 (M. C. Z. 3135, 3142, 4066, 4802) Kulu Valley (M. M. Carleton) 1874-6.

1 (M. C. Z. 3750) plains 70 miles s. w. of Ambala (M. M. Carleton) 1874.

Midbody scale-rows 18; rostral breadth one-third to one-half the width of head; nasals not quite in contact, semidivided, the cleft proceeding from the first labial; midbody diameters 3-4.5 mm., included in total lengths 49-55 times. Total length of M. C. Z. 3135 229 (225.5 + 3.5) mm.

## TYPHLOPS BRAMINA (Daudin)

*Eryx braminus* Daudin, 1803, Hist. Nat. Rept., 7, p. 279: Vizagapatam, India.

1 (M. C. Z. 2237) Malabar (Paris Mus.) 1865.

12 (M. C. Z. 3913-4) near Madras (R. H. Beddome) 1876.

2 (M. C. Z. 5229) Madras Coast (H. A. Ward) 1884.

6 (M. C. Z. 5393, 48775-9) plains s. w. of Ambala (M. M. Carleton) 1879.

Midbody scale-rows 20; rostral breadth one-quarter to one-third the width of head; nasals separated and divided, the cleft in contact with preocular except in M. C. Z. 3913, 3913A, and 5229A, where it reaches the second labial; midbody diameters 2-3.5 mm., included in total lengths 35-55 times. Total length of M. C. Z. 5229A, 169 (166 + 3) mm. The poorly preserved Malabar specimen has been excluded from examination.

Malcolm Smith (1943, p. 45) separates *bramina* and *T. psammeces* as follows:

Diameter of body 30-45 times into total length; transverse scale-rows on body 290-320. . . . . *bramina*

Diameter of body 55-75 times into total length; transverse scale-rows on body 370-400. . . . . *psammeces*

In the matter of diameter into length our series is clearly referable to *bramina*, but the transverse scale-rows range from 270-382 (approximately 270, 298, 299, 300, 306, 309, 312, 315, 316, 320, 323, 342, 382 in the Madras series alone) suggesting that this character is without significance for the separation of *psammeces*.

## TYPHLOPS DIARDI DIARDI Schlegel

*Typhlops diardi* Schlegel, 1839, *Abbild. Amphib.*, p. 39: *Indes Orientales*.

2 (M. C. Z. 2284) North India (M. M. Carleton) 1873.

Midbody scale-rows 24-25; rostral breadth about one-third the width of the head; nasals not in contact, semidivided, the cleft proceeding from the second labial; midbody diameters 9-12 mm., included in total lengths 28-30 times. Total length of larger snake, 376 (370 + 6) mm.

Most of the Rev. M. M. Carleton's specimens were carefully labeled and came from Ambala or the Kulu Valley region. These Punjab localities are far removed from Bengal, which is given by Smith as the most westerly point in the range of either form of *diardi*.

## TYPHLOPS BEDDOMII Boulenger

*Typhlops beddomii* Boulenger, 1890, *Fauna Brit. India, Rept. Batr.*, p. 237: Hills of the Indian Peninsula between 2,000 and 5,000 feet.

2 (M. C. Z. 3929) near Madras (R. H. Beddome) N. D.  
cotype (M. C. Z. 22372) Travancore Hills at 4,000 feet (R. H. Beddome) N. D.

Midbody scale-rows 18; rostral breadth one-third the width of the head; nasals broadly in contact, semidivided, the cleft proceeding from the second labial, separating the anterior nasal from the preocular; midbody diameters 3-3.5 mm., included in total lengths 31-33 times. Total length of cotype, 110 (106 + 4) mm.

This cotype of *beddomii* (not *beddomei* as given by Smith, 1943, pp. vii, 45, 54, etc.) was received in exchange from the British Museum in 1926. The two received direct from Beddome were entered as from "Madras," a blanket locality with little significance.

## TYPHLOPS ACUTA (Duméril &amp; Bibron)

*Onychocephalus acutus* Duméril & Bibron, 1844, *Erpét. Gén.*, 6, p. 333: Type locality unknown.

1 (M. C. Z. 3849) near Madras (R. H. Beddome) 1876.  
1 (M. C. Z. 18033) Taliparamba, Madras (F. Wall) 1923.

Midbody scale-rows 30-32; rostral, breadth five-eighths to three-quarters the width of head, hooked; nasals widely separated, semi-

divided, the cleft proceeding from the second labial; midbody diameters 4-4.5 mm., included in total lengths 43-44 times. Total length of M. C. Z. 18033, 198 (195 + 3) mm.

## LEPTOTYPHLOPIDAE

### LEPTOTYPHLOPS BLANFORDII (Boulenger)

*Glauconia blanfordii* Boulenger, 1890, Fauna Brit. India, Rept. Batr., p. 243, fig. 72: Sind, India.

*Glauconia carltoni* Barbour, 1908, Bull. Mus. Comp. Zool., 51, p. 316: (70 miles s.w. of) Ambala, Punjab, India.

Type & 2 paratypes of *carltoni* (M. C. Z. 3749, 3217) 70 miles s. w. of Ambala (M. M. Carleton) 1864 & 1874.

Midbody scale-rows 18; snout rounded; rostral breadth one-third the width of head; nasal completely divided, bordering the lip; ocular also bordering the lip; midbody diameters 2-2.5 mm., included in total lengths 71-81 times. Total length of largest snake (a paratype), 179 (164 + 15) mm., the type only a millimetre smaller.

Though the author of *Glauconia carltoni* spelled the specific name without an "e," the collector's name was really Carleton, as shown by his signature affixed to a manuscript field note preserved with M. C. Z. 4369.

Dr. Barbour, when describing *carltoni*, suggests that it may be a race of *blanfordii* differentiated by stouter form as shown by a diameter that is included "55 times" in the total length. Before reading this, however, both Mr. Loveridge and I had independently measured the type and found its diameter to be 2.5 mm., and its length 173 or 179 mm., giving a diameter into length of 71 times, for the paratypes 71-81, as against Boulenger's 60-80 for the types of *blanfordii*. The range for the species should now read 60-81 times, amending Smith's (1943, p. 61) description.

## UROPELTIDAE

Of this family Dr. Malcolm A. Smith (1944, p. 61) states that a constant characteristic is the absence of a loreal and the presence of four upper labials. Though usual, neither are constant, as will be



seen from the following records of M. C. Z. material. I am heartily in agreement with the statement (p. 63) that, owing to the extreme brevity of the Uropeltid tails, the short hemipenes are difficult to examine satisfactorily. Where no count is given in the following pages for loreal, preocular, postocular, or temporals, these shields are absent.

#### MELANOPHIDIUM WYNANDENSE (Beddome)

*Plectrurus wynandensis* Beddome, 1863, Proc. Zool. Soc. London, p. 228: Wynaad Hills, 3,500 feet, Malabar District, India.

♂ topotype (M. C. Z. 24739) Wynaad Hills (Brit. Mus.) 1927.

Midbody scale-rows 17; ventrals 174; anals 2; subcaudals 12; upper labials 4. Total length of ♂, 397 (385 + 12) mm.

Beddome's original spelling of the specific name was *wynandensis*, not *wynaudensis* as given by Smith (1943) on pp. vii, 65, 67, and 583.

#### PLATYPLECTRURUS MADURENSIS Beddome

*Platyplectrurus madurensis* Beddome, 1877, Proc. Zool. Soc. London, p. 167: Palni Hills, India.

3 topotypes (M. C. Z. 18044-6) Shembaganur, Palni Hills (F. Wall) 1923.

Midbody scale-rows 15; ventrals 164-167; anals 2; subcaudals 10-14; upper labials 4; postocular 1; temporal 1. Total length of ♀, (M. C. Z. 18043), 321 (305 + 16) mm.

#### TERETRURUS SANGUINEUS (Beddome)

*Plectrurus sanguineus* Beddome, 1867, Madras Quart. Journ. Med. Sci., 9, p. 14, pl. i, figs 1-2: Anaimalai Hills, India.

2 topotypes (M. C. Z. 6203) Anaimalai Hills, at 4,700 feet (Brit. Mus.) 1888.

1 (M. C. Z. 47900) near Madras (R. H. Beddome) N. D.

Midbody scale-rows 15; ventrals 129-144; anals 2; subcaudals 8-9; upper labials 4; postocular 1; temporal 1. Total length of ♀ (M. C. Z. 6203), 201 (194 + 7) mm.

The original description called for 17 scale-rows, but this has been attributed to a miscount.

## TERETRURUS RHODOGASTER (Wall)

*Brachyophidium rhodogaster* Wall, 1921, Journ. Bombay Nat. Hist. Soc., 28, p. 41: Palni Hills, India.

7 topotypes (M. C. Z. 18070-6) Shembaganur, Palni Hills (F. Wall) 1923.

Midbody scale-rows 15; ventrals 133-141; anals 2; subcaudals 7-11; upper labials 4; postocular 1; temporal 1. Total length of ♂ (M. C. Z. 18076), 195 (185 + 10) mm.

These counts somewhat increase the ventral range. The snakes are part of a series of 8 specimens listed as paratypes by Barbour & Loveridge (1929, Bull. Mus. Comp. Zoöl., 69, p. 229), but Wall had only a single ♀ holotype (now in the British Museum) which he believed to have come from the Palni Hills.

## PLECTRURUS PERROTETI Duméril &amp; Bibron

*Plectrurus perroteti* Duméril & Bibron, 1854, Erpét. Gén., 7, p. 167, pl. lix, fig. 4: Nilgiri Hills, India.

5 (M. C. Z. 3860, 3867, 3875 (2), 3915) near Madras (R. H. Beddome) N. D.

♀ topotype (M. C. Z. 4178) Nilgiri Hills (E. Gerrard) 1877.

3 (M. C. Z. 6202) Anaimalai Hills (Brit. Mus.) 1888.

Midbody scale-rows 15; ventrals 144-173; anals 2; subcaudals 7-12; upper labials 3-4 (3 on right side only of M. C. Z. 4178). Total length of ♀ (M. C. Z. 4178), 282 (270 + 12) mm.

These counts decrease the ventral range from the previous low of 152 of Malcolm Smith. Duméril & Bibron state that some of their 15 to 20 cotypes were in the British Museum; whether our topotype, purchased from Gerrard, is one of this series seems very doubtful.

## PLECTRURUS CANARICUS (Beddome)

*Silybura canarica* Beddome, 1870, Madras Month. Journ. Med. Sci., 2, p. 170: "Kudra Mukh" at 6,000 feet, India.

♂ topotype (M. C. Z. 24737) Kudremukh, at 6,200 feet (Brit. Mus.) 1927.

Midbody scale-rows 15; ventrals 178; anals 2; subcaudals 12; upper labials 4. Total length of ♂, 345 (325 + 20) mm.

## UROPELTIS NITIDUS (Beddome)

*Silybura nitida* Beddome, 1878, Proc. Zool. Soc. London, p. 154: Anaimalai Hills, India.

♂ ♂, ♀ ♀ (M. C. Z. 47290-3) near Madras (R. H. Beddome) N. D.

Midbody scale-rows 17; ventrals 197-224; anals 2; subcaudals 8-10; upper labials 4. Tail length included in head and body length 21.6-24.1 times in males, 31.2-33.7 times in females. Total length of larger ♂ (M. C. Z. 47292), 328 (315 + 13) mm.; of larger ♀ (M. C. Z. 47293), 278 (270 + 8) mm. This species is discussed further with *U. ocellatus*.

## UROPELTIS OCELLATUS (Beddome)

*Silybura ocellata* Beddome, 1863, Proc. Zool. Soc. London, p. 226: Walaghat, Nilgiri Hills, India.

4 ♂ ♂, ♀ ♀ (M. C. Z. 3857, 3872-3, 3884, 47288-9) near Madras (R. H. Beddome) N. D.

Midbody scale-rows 17; ventrals 186-195; anals 2; subcaudals 8-11; upper labials 4, except on right side of M. C. Z. 3884 where there are 5. Tail length included in head and body length 19.5-21.5 times in males, 25.9-27.2 times in females. Total length of largest ♂ (M. C. Z. 3872), 353.5 (338 + 15.5) mm.; of larger ♀ (M. C. Z. 3857), 254 (245 + 9) mm.

Of the 22 species of *Uropeltis* recognized by Malcolm Smith (1944, pp. 73-74), *ocellatus* is the only one permitted so large a ventral range as 50 (185-234). Those of the others ranging from 8 in the little-known *rubrolineatus* to 35 in *broughami*. This suggests the possibility that *ocellatus*, as now understood, may contain a subspecies.

When Beddome (1863, p. 226) described *ocellatus* from the Nilgiri Hills, it was on the basis of a ♂, ♀, and young specimen. He gave the number of ventrals as 199, this would be the cotype later sexed as ♀ by Boulenger (1893, p. 150).

Later Beddome (1878, p. 154) described *nitidus* from the Anaimalai Hills on the basis of four specimens. He gave the ventrals as 188-194; recounted as 184-195 by Boulenger (1893, p. 152).

The same year Beddome (1878, p. 801) described both *ochracea* and *dupeni* from "Nelliamputti" in the Anaimalai Hills, from seven or more specimens. His combined ventral counts were 214-233, or 214-231 according to Boulenger (1893, pp. 150-151).

Boulenger (1893, p. 150) relegated the last two species to the synonymy of *ocellatus*, but it is interesting to note that his material falls into two groups. Snakes from the Nilgiri and Wynaad Hills having 196–199 ventrals and those from the Anaimalai Hills 214–231. The matter deserves further investigation.

A series of ten specimens labeled *ocellatus* were received at various times from Col. R. H. Beddome by the Museum of Comparative Zoölogy. These snakes were readily separable into two groups according to whether the tail was rounded above (*ocellatus*) or distinctly flattened and somewhat spatulate. One might have supposed this difference to be that of ♂ and ♀ respectively were it not that dissection of every individual shows both sexes to be represented among the snakes of each type of tail, though one of the *ocellatus* females shows a slight approach to the spatulate condition.

This caudal difference was correlated with others which can best be set down in tabular form. Though the snout and eye differences between *ocellatus* and *nitidus* mentioned by Boulenger (*vide infra*) were not discernible, there seems little doubt that the spatulate tailed snakes are *nitidus* and so have been reregistered under that name. Apparently *nitidus* is otherwise still known only from Beddome's types unless, as seems possible, other examples have been called *ocellatus*.

Our material indicates the following differences between the two species in addition to the tail character already discussed:

Characters, etc.	<i>ocellatus</i>	<i>nitidus</i>
Number of specimens	4 ♂ ♂ 2 ♀ ♀	2 ♂ ♂ 2 ♀ ♀
Ventrals in males	186–189	197–206
Ventrals in females	192–195	206–224
Length of rostral	between $\frac{1}{4}$ and $\frac{1}{3}$ the length of shielded part of head	$\frac{1}{3}$ the length of shielded part of head
Length of rostral	equals its distance and $\frac{1}{4}$ to $\frac{1}{3}$ the length of frontal	equals its distance and $\frac{1}{2}$ the length of frontal
Length of tail into length of head + body	19.5–21.5 times in ♂ ♂ 25.9–27.2 times in ♀ ♀	21.6–24.1 times in ♂ ♂ 31.2–33.7 times in ♀ ♀
Color above variable	but showing much yellow and ocelli very conspicuous	iridescent black, scarcely any yellow, ocelli hardly noticeable
Color below	variable but yellow blotches prominent, often predominant	black, uniform or with relatively small yellow blotches or crossbars

Apart from color, the only differences between the two species that are cited by Boulenger (1893, pp. 150 and 152) are:

Character	<i>ocellatus</i>	<i>nitidus</i>
Snout	pointed	obtusely pointed
Rostral	about $\frac{1}{4}$ the length of the shielded part of head	about $\frac{1}{2}$ the length of the shielded part of head
Eye	hardly $\frac{1}{3}$ length of ocular	not $\frac{1}{2}$ length of ocular

#### UROPELTIS WOOD-MASONI (Theobald)

*Silybura wood-masoni* Theobald, 1876, Cat. Rept. Brit. India, p. 135: Palni Hills, India.

4 topotypes (M. C. Z. 18039-42) Shembaganur, Palni Hills (F. Wall) 1923.

Midbody scale-rows 19; ventrals 157-171; anals 2; subcaudals 6-9; upper labials 4. Total length of ♂ (M. C. Z. 18040), 214 (205 + 9) mm., of ♀ (M. C. Z. 18041), 218 (211 + 7) mm.

These counts increase the ventral range from the previous low of 166 of Malcolm Smith.

#### UROPELTIS MACROLEPIS (Peters)

*Silybura macrolepis* Peters, 1861, Serp. Fam. Uropelt., p. 904: Type locality unknown.

♀ (M. C. Z. 28644) Matheran near Bombay (Brit. Mus.) 1929.

Midbody scale-rows 15; ventrals 130; anals 2; subcaudals 8; upper labials 4. Total length of ♀, 189 (180 + 9) mm.

#### UROPELTIS CEYLANICUS Cuvier

*Uropeltis ceylanicus* Cuvier, 1829, Règne Anim., ed. 2, 2, p. 76: "Ceylon" in error.

5 (M. C. Z. 3852, 3868, 3916) near Madras (R. H. Beddome) N. D.

Midbody scale-rows 17; ventrals 126-146; anals 2; subcaudals 9-10; upper labials 4. Total length of ♂ (M. C. Z. 3868), 249 (234 + 15) mm.

In this series the length of that portion of the rostral visible from above is little more than half the distance from the frontal in the largest and three smallest snakes (M. C. Z. 3852, 3868), but equal to its distance from the frontal in the second largest specimen (M. C. Z. 3916).

#### UROPELTIS ARCTICEPS (Günther)

*Silybura arcticeps* Günther, 1875, Proc. Zool. Soc. London, p. 229, fig. 1: Tinnevely Hills, India.

♀ (M. C. Z. 22389) Travancore Hills (Brit. Mus.) 1926.

Midbody scale-rows 17; ventrals 148; anals 2; subcaudals 9; upper labials 4. Total length of ♀, 287 (271 + 16) mm.

#### UROPELTIS RUBROMACULATUS (Beddome)

*Silybura rubromaculata* Beddome, 1867, Madras Quart. Journ. Med. Sci., 11, p. 15, pl. ii, fig. 3: Anaimalai Hills, India.

♀ topotype (M. C. Z. 6199) Anaimalai Hills (Brit. Mus.) 1888.

Midbody scale-rows 17; ventrals 127; anals 2; subcaudals 9; upper labials 4. Total length of ♀, 287 (272 + 15) mm.

#### UROPELTIS RUBROLINEATUS (Günther)

*Silybura rubrolineata* Günther, 1875, Proc. Zool. Soc. London, p. 228: Travancore Hills, India.

*Silybura phipsonii* Mason, 1888, Ann. Mag. Nat. Hist. (6), 1, p. 184: Bombay Ghats, India.

12 (M. C. Z. 3850, 3880-1, 3911, 47034-40, 47101) Madras (R. H. Beddome) N. D.

♂ (M. C. Z. 22381) India (Brit. Mus.) 1926.

3 (A. M. N. H. 46307-9) Panchgani, Satara District (C. McCann) 1930.

Midbody scale-rows 17; ventrals 136-167; anals 2; subcaudals 7-12; upper labials 4. Tail length included in head and body length apparently 15-21 times in males, 22-25 times in females. Total length of largest ♂ (M. C. Z. 22381), 267 (255 + 12) mm.; of largest ♀ (M. C. Z. 3850), 229 (220 + 9) mm.

In his key to the genus *Uropeltis*, Malcolm Smith (1943, pp. 74, 82) separates *rubrolineatus* and *phipsonii* as follows:

Portion of rostral visible from above not or not much longer than its distance from the frontal; a broad yellow (red) stripe along each side of the body; ventrals 165-172; range: Western Ghats south of the Palghat Gap, Anaimalai and Travancore Hills . . . . .*rubrolineatus*  
 Portion of rostral visible from above distinctly longer than its distance from the frontal; a yellow streak along each side of the body in front; ventrals 138-157; range: Western Ghats from the Bombay Hills to the Anaimalai Hills . . . . .*phipsonii*

The question arose as to whether we are dealing with a northern race with less numerous ventrals and a southern race with more. Unfortunately this could not be settled by reference to M. C. Z. material as it was so poorly localized. However, the American Museum placed at my disposal a small series from Panchgani in the extreme northern part of the joint ranges. From the locality it might be expected that these Panchgani snakes would be referable to *phipsonii*, with which they certainly agree in coloration and number of ventrals (137-140). On the other hand in all three snakes the visible portion of the rostral is equal to its distance from the frontal and in one (A. M. N. H. 46308) the yellow lateral stripe is more or less continuous from head to anus.

This lateral stripe is present anteriorly on almost every snake in the Madras series, though almost indistinguishable in a few specimens. Yellow spots, especially prominent in one Panchgani reptile (A.M.N.H. 46309), are to be found on a few Madras snakes even if inconspicuous. There is considerable variation in the U-shaped marking on the subcaudals, but it is shown by all sixteen snakes.

The portion of rostral visible from above is equal to (7 examples), or longer than (5 examples), its distance from the frontal, in the Madras series whose ventrals range from 136-167. In view of the combined ventral range of *rubrolineatus* and *phipsonii* (136-172) being within that permitted for certain other members of the genus, it seems reasonable to assume that only one species is represented. Possibly with more material an average difference in scale counts may be demonstrated.

In so far as its rostral length is only a quarter that of the shielded portion of the head, M. C. Z. 3880 agrees with *rubrolineatus*, but M. C. Z. 3881, where it is between a quarter and a third, is an intermediate.

The eye diameter is less than half the length of the ocular shield i. e. *rubrolineatus*, in all but M. C. Z. 3880 and 47034.

In the Madras series, which, incidentally, were received as "*beddomei* Günther," the truncated portion of the tail is certainly large, and in most cases "flat," though some appear to be very slightly convex.

When M. C. Z. 22381, received as *hipsonii* from the British Museum in 1926 (apparently one of the specimens listed by Boulenger 1893, p. 155), was examined, it was found to agree with *rubrolineatus* in rostral length, but with *hipsonii* in the eye character and number of ventrals.

It would seem probable, therefore, that *hipsonii* is either a synonym of *rubrolineatus* or at most a northern race, for no constant structural characters have been found to separate them, and the U-shaped mark on the subcaudal region is present on the entire M. C. Z. series. Only in its paler brown hue (? faded) and larger size does the British Museum snake differ in coloration from the average darker colored Madras series.

#### UROPELTIS PETERSI (Beddome)

*Silybura petersi* Beddome, 1878, Proc. Zool. Soc. London, p. 154: Anaimalai Hills, India.

4 topotypes (M. C. Z. 6201) Anaimalai Hills at 4,700 feet (Brit. Mus.) 1888.

Midbody scale-rows 17; ventrals 150-156; anals 2; subcaudals 6-10; upper labials 4. Total length of ♂, 185 (173 + 12) mm.

#### UROPELTIS PULNEYENSIS (Beddome)

*Plectrurus pulneyensis* Beddome, 1863, Proc. Zool. Soc. London, p. 228, pl. xxv, fig. 2: Palni Hills, India.

♀ (M. C. Z. 1335) Periyakulam, Madura District (D. C. Scudder) 1863.

4 topotypes (M. C. Z. 7773, 33506-7) Kodaikanal, Palni Hills (T. Kolbe) 1859.

4 (M. C. Z. 3870, 47041-3) near Madras (R. H. Beddome) N. D.



Midbody scale-rows 17; ventrals 156-180; anals 2; subcaudals 7-12; upper labials 4. Total length of ♀ (M. C. Z. 1335), 354 (342 + 12) mm.

Ventral counts of 156 and 159 bring Roux's (1928, p. 441) count of 154 within the range of probability.

#### UROPELTIS GRANDIS (Beddome)

*Rhinophis grandis* Beddome, 1867, Madras Quart. Journ. Med. Sci., 11, p. 15. pl. ii, fig. 4: Anaimalai Hills, India.

3 topotypes (M. C. Z. 6200) Anaimalai Hills (Brit. Mus.) 1888.

Midbody scale-rows 19; ventrals 190-201; anals 2; subcaudals 6-12; upper labials 4. Total length of ♂, 388 (370 + 18) mm.

#### RHINOPHIS SANGUINEUS Beddome

*Rhinophis sanguineus* Beddome, 1863, Proc. Zool. Soc. London, p. 227: Cherambody, Malabar, India.

3 (M. C. Z. 3854A, 3854B, 3865) near Madras (R. H. Beddome) N. D.

Midbody scale-rows 15; ventrals 188-194; anals 2; subcaudals 6-9; upper labials 4. Total length of ♂ (M. C. Z. 3865), 252 (245 + 7) mm., of larger ♀ (M. C. Z. 3854A), 458 (445 + 13) mm.

### XENOPELTIDAE

#### XENOPELTIS UNICOLOR Reinwardt

*Xenopeltis unicolor* Reinwardt, in Boie, 1827, Isis von Oken, p. 564: Java.

♂ (M. C. Z. 3114) Calcutta (W. Theobald) 1866.

Midbody scale-rows 15; ventrals 183; anal 1 (?); subcaudals 26; upper labials 8 (4, 5); loreal 0; preocular 1; postoculars 2; temporals 2 + 3. Total length of ♂, 895 (810 + 85) mm.

Apparently this species has not been recorded from India before, therefore this old record should be accepted with reserve.

## BOIDAE

## PYTHON MOLURUS MOLURUS (Linnaeus)

*Coluber molurus* Linnaeus, 1758, Syst. Nat. ed. 10, 1, p. 225: India.

2 eggs (Exhibition) India (Percy Watson) N. D.

Skeleton (M. C. Z. 4246) India (E. Gerrard) 1877.

Skull (M. C. Z. 4278) India (E. Gerrard) 1877.

♂ alc. (M. C. Z. 31475) Agra ("Snake King") 1931.

There are also three mounted specimens with inadequate data indirectly received from zoological gardens and a circus.

Midbody scale-rows 68-70; ventrals 253; anal 1; subcaudals 65; upper labials 12-13, the 6th (left) or 7th (right) just entering the orbit; preoculars 2; postoculars 3; lance-shaped mark on crown indistinct anteriorly. Total length (M. C. Z. 31475), 1965 (1720 + 245) mm.

Deraniyagala (1945, *Spolia Zeylanica*, 24, pp. 103-105) has split *P. molurus* as recognized by M. A. Smith into three races. *P. m. orbiculata* is separated from *P. m. molurus* and *P. m. pimbura* by means of the shape of the dark lateral markings, but in M. C. Z. 31475 from Agra and a non-localized mounted example (M. C. Z. 46622) there is much variation in the nearly median lateral markings, which approximates to that illustrated by Deraniyagala for the alleged races. Deraniyagala then separates *pimbura* from *molurus* on the basis of subcaudal counts, for both midbody scale rows (63-69 and 62-72) and ventrals (248-257 and 244-254), as given by him, overlap for most of their range. In the case of the subcaudals (57-65 for *pimbura*, 66-67 for *molurus*), the data, particularly for *molurus* based on only three examples, appears inadequate for the separation of races whose alleged differences in color pattern our series seems to indicate are of little value.

## ERYX CONICUS (Schneider)

*Boa conica* Schneider, 1801, Hist. Amphib., 2, p. 268: So. India.

3 ♂ ♂ (M. C. Z. 3885) Madras, (R. H. Beddome) N. D.

♀ ♀ (M. C. Z. 4181, 18380) India (A. Agassiz & T. Barbour) 1877 & 1924.

There is also an unlocalized mounted example from the New York Zoological Society.

Midbody scale-rows 44-50; ventrals 168-185; anal 1; subcaudals 16-21; upper labials 12-15; mental groove absent; tail pointed. Total length of ♀ (M. C. Z. 18380), 680 (640 + 40) mm.

### ERYX JOHNNI JOHNNI (Russell)

*Boa johnii* Russell, 1801, Ind. Serp., 2, pp. 18, 20, pls. xvi-xvii: Tranquebar, India.

♀, ♂ (M. C. Z. 4211, 6675) India (A. Agassiz & T. Barbour) 1877 & 1903.

Midbody scale-rows 58-61; ventrals 200-201; anal 1; subcaudals 33-34; upper labials 10-11; mental groove present; tail blunt. Total length of ♂ (M. C. Z. 6675), 755 (670 + 85) mm.

Dr. O. G. Stull, who made an intensive study of the Boidae in American collections some years ago, informs me that she recognizes the northwestern race *persicus* Nikolski on the basis of the following characters:

Midbody scale-rows 47-56; ventrals 187-206; subcaudals 26-37; ventrals + caudals total 212-239..... *j. persicus*  
 Midbody scale-rows 57-65; ventrals 194-215; subcaudals 27-40; ventrals + caudals total 226-245..... *j. johnii*

### ERYX JOHNNI PERSICUS Nikolski

*Eryx persicus* Nikolski, 1907 (1905), Ann. Mus. Zool. St. Petersburg, 10, p. 290, fig. 8: Aguliasheker, Arabistan region, S. W. Persia.

♀ (M. C. Z. 3764) within 100 miles of Ambala (M. M. Carleton) N. D.

Midbody scale-rows 53; ventrals 187; anal 1; subcaudals 33; upper labials 10. Total length of ♀, 518 (460 + 58) mm.

Undoubtedly referable to *j. persicus* on the characters given by Dr. Stull, this snake from the extreme eastern Punjab extends the range considerably, for Malcolm Smith (1943, p. 114) includes the Punjab in the range of *j. johnii* and states that the typical form meets with *j. persicus* in Baluchistan and the Northwest Frontier Province.

## COLUBRIDAE

### ELAPHE HELENA (Daudin)

*Coluber helena* Daudin, 1803, Hist. Nat. Rept., 6, p. 277: Vizagapatam, India.

♂, ♀ ♀ (M. C. Z. 3895) Madras (R. H. Beddome) N. D.

Midbody scale-rows 25; ventrals 231-254; anal 1; subcaudals 84-99; upper labials 9 (5, 6); loreal 1; preocular 1; postoculars 2; except on left side of one snake where only 1 is present; temporals usually 2 + 2, also 2 + 3, 2 + 4, and 1 + 2. Total length of ♂, 397 (315 + 82) mm.

Two of these southeast Indian specimens show the white, black-edged, nuchal collar interrupted on the median line. This pattern M. A. Smith (1943, p. 150) considers restricted to the Western Ghats of Southern India. The color pattern of the remaining specimen is intermediate between this and the normal one, having two posteriorly converging or parallel black stripes on the neck.

#### ELAPHE HODGSONII (Günther)

*Spilotes hodgsonii* Günther, 1860, Proc. Zool. Soc. London, p. 156, pl. xxvii: Nepal, India.

♂ ♂ (M. C. Z. 3134, 3146) Kulu Valley (M. M. Carleton) 1874.  
3 ♂ ♂, ♀ (M. C. Z. 4488) near Ambala (M. M. Carleton) 1878.

Midbody scale-rows 23; ventrals 237-246; anals 2; subcaudals 87-91; upper labials 8 (4, 5); loreal 1; preocular 1; postocular 2; temporals 2 + 3 on at least one side, with 2 + 2, 2 + 4, 3 + 3, or 3 + 4 on the other. Total length of ♂ (M. C. Z. 3146), 1430 (1120 + 310) mm.

The feeble keeling of the scales in the ischiadic region, used in M. A. Smith's (1943, p. 142) key to the genus, is very faint indeed in the adult snake, and not to be found in the others since all are young.

#### ELAPHE CANTORIS (Boulenger)

*Coluber cantoris* Boulenger, 1894, Cat. Snakes Brit. Mus., 2, p. 35: Himalayas. India; Khasi and Garo Hills, Assam, India; Burma.

Cotype ♀ (M. C. Z. 28646) Khasi Hills (Brit. Mus.) 1929.

Midbody scale-rows 17; ventrals 233; anals 2; subcaudals 69+; upper labials 8 (4, 5); loreal 1; preocular 1; postoculars 2; temporals 2 + 3. Total length of ♀, 959 (790 + 169) mm.

Here again the keeling is absent on the outer rows of ventrals and very faint on the remainder. This specimen is interesting in having a divided, instead of the usual single, anal.

## PTYAS MUCOSUS (Linnaeus)

*Coluber mucosus* Linnaeus, 1758, Syst. Nat. ed. 10, 1, p. 226. and 1754, Mus. Ad. Frid., 1, p. 37, pl. xxiii: India.

- ♂ (M. C. Z. 1329) Periyakulam, Madura District (D. C. Scudder) 1866.  
 ♂ ♂ (M. C. Z. 2193) Ganges (Paris Mus.) 1865.  
 ♂ (M. C. Z. 3109) Calcutta (W. Theobald) 1866.  
 ♂ (M. C. Z. 3853) Madras (R. H. Beddome) 1876.  
 ♂ (M. C. Z. 4024) Kulu Valley (M. M. Carleton) 1877.  
 ♀ (M. C. Z. 19572) Calcutta (T. Barbour) 1904.

Midbody scale-rows 17; ventrals 190-199; anals 2; subcaudals 109-133; upper labials 8 (4, 5); loreals 2-4, 4 only on right side of M. C. Z. 2193; preocular 1; postoculars 2; temporals 2 + 2 or 2 + 3. Total length of ♂ (M. C. Z. 2193), 2290 (1700 + 590) mm.

M. C. Z. 3109, received as *Ptyas blumenbachii* (Merrrem), differs in having prominent dark keels on the more dorsally placed scales on the posterior part of the body, also in the absence of the characteristic dark cross-bars.

## COLUBER VENTROMACULATUS Gray &amp; Hardwicke

*Coluber ventromaculatus* Gray & Hardwicke, 1834, Illus. Indian Zool., 2, pl. lxxx, fig. 1: Type locality unknown.

juv. (M. C. Z. 15819) Karachi, Sind (F. Wall) 1921.

Midbody scale-rows 19; ventrals 210; anals 2; subcaudals 104; upper labials 8 (5, 6); loreals 2; preoculars 2; postoculars 2; temporals 2 + 2 (not 2 + 3 as in M. A. Smith, 1943, p. 168). Total length of juvenile, 308 (232 + 76) mm.

## COLUBER FASCIOLATUS Shaw

*Coluber fasciolatus* Shaw, 1802, Gen. Zool., 3, p. 528: India.

♂ (M. C. Z. 28645) Bangalore (Brit. Mus.) 1929.

Midbody scale-rows 21; ventrals 192; anals 2; subcaudals 82; upper labials 7 (4, 5); loreal 1; preocular 1; postoculars 2; temporals 2 + 3. Total length of ♂, 341 (270 + 71) mm. This specimen is unusual in having seven instead of the normal 8 upper labials.

## COLUBER DIADEMA Schlegel

*Coluber diadema* Schlegel, 1837, Phys. Serp., 2, p. 148: near Bombay, India.

♂ ♂ (M. C. Z. 3766, 9913) Ambala (M. M. Carleton) 1874.

Midbody scale-rows 29; ventrals 243-247; anal 1; subcaudals 102-107; upper labials 10-11, none entering orbit; loreals 2; preoculars 2; postoculars 2-3; temporals 4 + 3, 4 + 4, or 4 + 5. Total length of smaller ♂ (M. C. Z. 3766), 758 (600 + 158) mm. The larger is skinned out.

The single anal is normal and "2" given by M. A. Smith (1943, p. 173) is evidently a misprint. Smith lists two "color forms" saying that the range of *C. d. atriceps* (Fischer) is much the same as that of *C. d. diadema* but less extensive. The pattern of the smaller male listed above corresponds to that of the typical form, that of the larger to *atriceps*. Under the circumstances it seems best to treat this snake binomially, at least pending the comprehensive revision forecast by Schmidt (1939, p. 77) who tentatively divides "*diadema*" into three or four species!

## OPHEODRYS CALAMARIA (Günther)

*Cyclophis calamaria* Günther, 1858, Cat. Snakes Brit. Mus., p. 250: Ceylon.

♂, ♀ ♀ (M. C. Z. 3844, 3908) near Madras (R. H. Beddome) N. D.

Midbody scale-rows 15; ventrals 133-146; anals 2; subcaudals 60-71; upper labials 7 (3, 4); loreal 0; preocular 1; postoculars 2; temporals 1 + 2. Total length of ♀ (M. C. Z. 3844), 303 (222 + 81) mm.

In as far as colour seems to be the only constant basis for separating *Liopeltis* from *OphcodrYS* (M. A. Smith, 1943, pp. 136, 177 and 182), I follow most American herpetologists in regarding *Liopeltis* as a synonym.

## OPHEODRYS RAPPII (Günther)

*Ablabes rappii* Günther, 1860, Proc. Zool. Soc. London, p. 154, pl. xxvi, fig. B: Sikkim, India.

♂, ♀ (M. C. Z. 3137, 3147) Kulu Valley (M. M. Carleton) N. D.

♂ (M. C. Z. 4489) Ambala (M. M. Carleton) 1880.

Midbody scale-rows 15; ventrals 191-192; anals 2; subcaudals 61-65; upper labials 6 (3, 4) or 5 (3, 4) on right side of M. C. Z. 3147

only; loreal 1; preocular 1; postoculars 2; temporals 1 + 1. Total length of ♂ (M. C. Z. 3147), 533 (422 + 111) mm.

#### OLIGODON CYCLURUS (Cantor)

*Coronella cyclura* Cantor, 1839, Proc. Zool. Soc. London, p. 50: Type locality unknown.

juv. (M. C. Z. 2281) North India (M. M. Carleton) 1873.

Midbody scale rows 19; ventrals 168; anal 1; subcaudals 47; upper labials 8 (4, 5); loreal 1; preocular 1; subocular 1; postoculars 2; temporals 2 + 2. Coloration is that of form I of M. A. Smith (1943, pp. 202-204) except that the head markings are very well defined. Total length of juv., 177 (150 + 27) mm.

#### OLIGODON ALBOCINCTUS (Cantor)

*Coronella albocincta* Cantor, 1839, Proc. Zool. Soc. London, p. 50: Cherrapunji, Assam, India.

♂ (M. C. Z. 22378) Himalayas (Brit. Mus.) 1926.

Midbody scale-rows 21; ventrals 183; anal 1; subcaudals 62; upper labials 7 (3, 4); loreal 1; preocular 1; postoculars 2; temporals 1 + 2. Coloration is that of form II of M. A. Smith (1943, p. 212). Total length of ♂, 730 (580 + 150) mm.

#### OLIGODON THEOBALDI (Günther)

*Simotes theobaldi* Günther, 1868, Ann. Mag. Nat. Hist. (4), 1, p. 417: Pegu, Burma.

♂ (M. C. Z. 3910) Madras (R. H. Beddome) 1876.

Midbody scale rows 17; ventrals 177; anals 2; subcaudals 47; upper labials 7 (3, 4); loreal 1; preoculars 1; postoculars 2; temporals 1 + 2. Total length of ♂, 371 (312 + 59) mm.

Malcolm Smith (1943, p. 220) includes *Simotes beddomii* Boulenger, whose type locality was the Wynaad District near Madras, under his synonymy of *O. theobaldi* but gives the range of *theobaldi* as Assam and Burma. M. C. Z. 3910, originally received as *beddomii*, is almost certainly from South India and appears indistinguishable from specimens of *theobaldi* from Burma, the only difference being that it shows

an undivided nasal while in Burmese examples the nasal is divided. This character was used by Boulenger (1890, pp. 310, 314-5) to distinguish the alleged species. If it fails to separate them subspecifically, it seems necessary to extend the range of *theobaldi* to include the hills of South India.

#### OLIGODON CRUENTATUS (Günther)

*Simotes cruentatus* Günther, 1868, Ann. Mag. Nat. Hist. (4), 1, p. 417: Pegu, Burma.

♀, juv. (M. C. Z. 2279) North India (M. M. Carleton) 1873.

Midbody scale rows 17; ventrals 163-170; anals 2; subcaudals 30-37; upper labials 8 (4, 5); loreal 1; preocular 1; postoculars 2; temporals 1 + 2. Total length of ♀, 386 (340 + 46) mm.

Most of the Rev. M. M. Carleton's collections came from the Punjab but these specimens were not further localized than North India. Malcolm Smith (1943, p. 221) gives Burma between lats. 16° and 20° N. as the range of this species. Careful examination, and comparison with Burmese specimens of *cruentatus*, show that these snakes agree perfectly with Dr. Smith's description of the species except for slight color differences. Both show the characteristic annuli on the base and tip of the tail, both lack the dark brown longitudinal stripes sometimes seen in this species, but the adult shows the faint dark reticulations on the back anteriorly coalescing to form four, fine, longitudinal lines of which the outer pair are most distinct; the juvenile shows four similar longitudinal rows of minute ocelli, each covering about half a scale.

#### OLIGODON TAENIOLATUS (Jerdon)

*Coronella taeniolata* Jerdon, 1853, Journ. Asiatic Soc. Bengal, 22, p. 528: Vizagapatam, India.

♀, ♂ (M. C. Z. 3842, 3869) Malabar (R. H. Beddome) N. D.

♂ (M. C. Z. 3848) near Madras (R. H. Beddome) N. D.

♂, juv. (M. C. Z. 3904) Southern India (R. H. Beddome) N. D.

♂ (M. C. Z. 18061) Taliparamba, Madras (F. Wall) 1923.

Midbody scale-rows 13-15 (13 in M. C. Z. 3842 only); ventrals 166-172; anals 2; subcaudals 37-49; upper labials 7 (3, 4); loreal 1; preocular 1; postoculars 2; temporals 1 + 2 or 1 + 4 (on right side



of M. C. Z. 3842 only). Total length of ♂ (M. C. Z. 3848), 455 (385 + 70) mm.

Apparently M. C. Z. 3842 is the first recorded example of *taeniolatus* with 13 midbody scale-rows. Mr. Loveridge, who examined the snake at my request, agrees that it is conspecific with the others. In coloration M. C. Z. 3842 and 3904 (♂) agree with form I of M. A. Smith (1943, p. 224); M. C. Z. 3869, 3848 and 3904 (juv.) are form II, while M. C. Z. 18061 corresponds to form IV.

#### OLIGODON ARNENSIS (Shaw)

*Coluber arnensis* Shaw, 1802, Gen. Zool., 3, p. 526: Vizagapatam and Arni, India.

juv. (M. C. Z. 4065) Kulu Valley (M. M. Carleton) 1876.

♀ (M. C. Z. 4491) Ambala (M. M. Carleton) 1880.

Midbody scale rows 17; ventrals 187-190; anals 2; subcaudals 39-52; upper labials 7 (3, 4) with the 6th excluded from the border of the lip in M. C. Z. 4491, or 6 (2, 3) with the 5th excluded from the lip on one side in M. C. Z. 4065; loreal 1; preocular 1; a tiny subocular present on one side in M. C. Z. 4065; postoculars 2; temporals 1 + 2. The ventrals are not angulate laterally in the larger snake and only slightly so in the juvenile. Total length of ♀, 502 (420 + 82) mm.

F. Wall (1923, p. 324), in discussing this species, gives a range of 28-40 dark, white-edged, dorsal bars on the body with 7-20 on the tail for specimens from north of the Ganges, and records one snake with 47 bars on the body from Bihar. Malcolm Smith (1943, p. 227) remarks that his conclusions differ from those of Wall as regards the geographical distribution of the number of bars and gives a range of 7-20 on the body and 7-20 on the tail for examples from India north of lat. 20°. The maximum number of bars he mentions for any part of the range of this species is 30 on the body and 16 on the tail. Our two well-localized snakes would seem to support Wall's conclusions. The adult has 44 bars on the body and 13 on the tail, while the juvenile exhibits 45 bars on the body and 11 on the tail.

#### OLIGODON AFFINIS Günther

*Oligodon affinis* Günther, 1862, Ann. Mag. Nat. Hist. (3), 9, p. 58: Anaimalai Hills, India.

♂ (M. C. Z. 3839) Madras Presidency (R. H. Beddome) N. D.

Midbody scale-rows 17; ventrals 144; anals 2; subcaudals 27; upper labials 7 (3, 4); loreal 0; preoculars 2; postoculars 2; temporals 1 + 1. Total length of ♂, 311 (270 + 41) mm.

This snake is unusual in showing two preoculars; one being considered constant for the genus by M. Smith (1943, p. 196).

#### AHAETULLA AHAETULLA AHAETULLA (Linnaeus)

*Coluber ahaetulla* Linnaeus, 1758, Syst. Nat. ed. 10, 1, p. 225 (part): Asia (restricted).

♂ (M. C. Z. 3194) Calcutta (W. Theobald) 1866.

3 ♂ ♂ (M. C. Z. 3840, 3862, 3893) Madras (R. H. Beddome) N. D.

♂ (M. C. Z. 4204) India (E. Gerrard) 1877.

Midbody scale-rows 15; ventrals 163-188; anals 2; subcaudals 138-153; upper labials 9 (4, 5, 6) or 8 (4, 5) in M. C. Z. 3893 only, or 9 (5, 6) in M. C. Z. 3862 only; loreal 1; preocular 1; postoculars 2; temporals 2 + 2, rarely 1 + 2 (M. C. Z. 3194) or 2 + 1 (M. C. Z. 3862). Total length of ♂ (M. C. Z. 3194), 905 (600 + 305) mm.

In coloration M. C. Z. 4204 agrees with form I of M. A. Smith (1943, p. 243) while all the others are of form II, which is allegedly confined to Southern India. It is quite possible that the Calcutta specimen may have come from further south.

#### AHAETULLA GRANDOCULIS (Boulenger)

*Dendrophis grandoculis* Boulenger, 1890, Fauna Brit. India, Rept. Batr., p. 337: Tinnevely Hills and Coonoor Ghat, India.

♂ (M. C. Z. 3863) Madras (R. H. Beddome) N. D.

Midbody scale rows 15; ventrals 180; anals 2; subcaudals 133; upper labials 9 (4, 5, 6); loreal 1; preocular 1; postoculars 2; temporals 1 + 2 and 2 + 2. Total length of ♂, 1035 (710 + 325) mm.

This snake considerably increases the limited subcaudal range of 117-124 given by M. A. Smith (1943, p. 246), and has apparently only 30, instead of 31-33, maxillary teeth (*loc. cit.*, p. 245).

#### CHRYSOPELEA ORNATA (Shaw)

*Coluber ornatus* Shaw, 1802, Gen. Zool., 3, p. 477: East India Islands.

♀ ♀ (M. C. Z. 3113, 3115) Calcutta (W. Theobald) 1866.

♂ (M. C. Z. 3903) Madras (R. H. Beddome) N. D.

Midbody scale-rows 17; ventrals 215-222; anals 2; subcaudals 117-120; upper labials 9 (4, 5, 6); loreal 1; preocular 1; postoculars 2; temporals 2 + 2. Total length of ♀ (M. C. Z. 3115), 963 (710 + 253) mm.

In coloration M. C. Z. 3113 agrees with form I of M. A. Smith (1943, p. 252); M. C. Z. 3115 is intermediate between forms I and II, and M. C. Z. 3903 is immature.

Deraniyagala (1945, *Spolia Zeylanica*, 24, p. 106) has recently described a Ceylonese race of *Chrysopelea ornata* as *lankavae*. In so far as the description of this form is apparently based entirely upon the nature of the dorsal spots, our series, though small, casts some doubt on its validity.

In a young 396 mm. snake (M. C. Z. 39811) from Udakelle Estate, Polganivella, Ceylon, the rosette-like markings are very distinct, covering 4, 5, or even, though rarely, 6 scales, thus conforming to *lankavae*. However, it differs from this form in having the spots upon every, instead of only the alternate, crossbar.

Even more distinct than in this Ceylonese example are the vertebral spots, covering 4 to 6 scales, in a Madras snake (M. C. Z. 3903); but in this specimen, particularly posteriorly, there are indications of a very fine crossbar between each of the larger ones showing a vertebral spot, so that this Indian specimen, too, appears to conform to *lankavae*.

Apparently M. C. Z. 3113 from Calcutta might be placed in either race for it shows distinct vertebral spots of 4 to 5 scales in size on alternate crossbars.

#### CHRYSOPELEA TAPROBANICA Smith

*Chrysopelea taprobanica* Smith, 1943, *Fauna Brit. India, Rept. Amphib.*, 3, p. 254: Kanthali, Ceylon.

♂, head (M. C. Z. 47881) near Madras (R. H. Beddome) N. D.

Midbody scale-rows 17; ventrals 208; anals 2; subcaudals 120; upper labials 9 (4, 5, 6); loreal 1; preocular 1; postoculars 2; temporals 2 + 2. Total length of ♂, 785 (560 + 225) mm. ♀

These examples show that this species, originally described as from Ceylon alone, also occurs on the Indian mainland.

#### LYCODON SUBCINCTUS Boie

*Lycodon subcinctus* Boie, 1827, *Isis von Oken*, p. 551: Java.

♂ (M. C. Z. 2236) Pondichéry (Paris Mus.) 1865.

Midbody scale-rows 17; ventrals 206; anals 2; subcaudals 76; upper labials 8 (3, 4, 5); loreal 1; preocular 0; postoculars 2; temporals 1 + 2. Total length of ♂, 310 (255 + 55) mm.

Peninsular India is well outside the range of this snake according to M. A. Smith (1943, p. 258), but it is quite likely that this locality is erroneous. The specimen was received in exchange from A. A. Duméril.

### LYCODON STRIATUS (Shaw)

*Coluber striatus* Shaw, 1802, Gen. Zool., 3, p. 527: Vizagapatam and Hyderabad, India.

♂ ♂, ♀ (M. C. Z. 3144) Kulu Valley (M. M. Carleton) 1874.

♂ (M. C. Z. 4784) Madras (R. H. Beddome) N. D.

Midbody scale-rows 17; ventrals 161-180; anals 2; subcaudals 49-58; upper labials 8 (3, 4, 5) or 6 (3, 4) in M. C. Z. 3144 (♀) only; loreal 1; preocular 1; postoculars 2; temporals 1 + 2, 2 + 2, or 2 + 3, the arrangement being often azygous. Total lengths of ♂ ♂ (M. C. Z. 3144A, 3144B), 333 (270 + 63) mm.

### LYCODON AULICUS AULICUS (Linnaeus)

*Coluber aulicus* Linnaeus, 1758, Syst. Nat. ed. 10, 1, p. 220, and 1754, Mus. Ad. Frid., 1, p. 29, pl. xii, fig. 2: "America."

♂, ♀ ♀ (M. C. Z. 4269, 3212, 5400) Ambala (M. M. Carleton) 1877 & 1879.

♂ ♂, ♀ ♀ (M. C. Z. 3877, 3912, 4783) Madras (R. H. Beddome) N. D.

♂ (M. C. Z. 4846) Bombay (no further data).

♀ (M. C. Z. 7541) Lucknow (T. Barbour) 1907.

Midbody scale-rows 17; ventrals 182-214; anals 2, except in M. C. Z. 3877 and 4783 (♂) where it is single; subcaudals 57-72; upper labials 9 (3, 4, 5); loreal 1; preocular 1; postoculars 2; temporals usually 2 + 3, rarely 1 + 2, 1 + 3, or 2 + 4. Total length of ♀ (M. C. Z. 7541), 675 (565 + 110) mm.

My reasons for employing trinomials are explained below.

## LYCODON AULICUS TRAVANCORICUS (Beddome)

*Cercaspis travancoricus* Beddome, 1870, Madras Month. Journ. Med. Sci., 2, p. 169: Travancore Hills, India.

♂ (M. C. Z. 2232) Pondichéry (Paris Mus.) 1865.

♀ ♀ (M. C. Z. 3856, 47887) Madras (R. H. Beddome) N. D.

♂, ♀ (M. C. Z. 6206) Anaimalai Hills (Brit. Mus.) 1888.

♀ (M. C. Z. 18050) Taliparamba, Madras (F. Wall) 1923.

Midbody scale-rows 17; ventrals 183–205; anal 1; subcaudals 62–70; upper labials 9 (3, 4, 5) or 8 (2, 3, 4) in M. C. Z. 47887 only; loreal 1; preocular 1; postoculars 2; temporals 2 + 3 except M. C. Z. 2232 which has 1 + 3 (R) and 2 + 4 (L). Total length of ♀ (M. C. Z. 2232), 508 (410 + 98) mm.

In Malcolm A. Smith (1943, pp. 259, 263–265) *L. aulicus* and *L. travancoricus* are regarded as full species separated by the divided anal of *aulicus*, single in *travancoricus*; and the loreal separated from, or only just touching, the internasal in *travancoricus*, while it is extensively in contact in *aulicus*.

On the basis of these characters our specimens include three intermediates between these two forms, which would suggest that their relationship is rather that of subspecies than specific. These intermediates are:

♂ (M. C. Z. 2232) which has a single anal and the loreal well in contact with the internasals and is seemingly closest to *travancoricus*.

♂ ♂ (M. C. Z. 3877, 4783) each with a single anal and the loreal extensively in contact with the internasal and apparently closer to *aulicus*.

In coloration there seems to be a tendency for the cross-bars of *travancoricus*, particularly in the young where those on the tail are still distinguishable, to be more numerous (27–51) than in *aulicus* (12–50, with most 16–25 and only one as high as 50).

There are also slight differences in the hemipenes according to Dr. Smith, but being without a mature male of *travancoricus* I was unable to evaluate these.

It will be observed that we have both races (including intermediates) from near Madras, which area is included in the range of both "species" as outlined by Dr. Smith. Undoubtedly the ranges of *aulicus* and *travancoricus* overlap.

M. C. Z. 2232 formed part of an exchange from A. A. Duméril. M. C. Z. 6206 (♂, ♀) were received from the British Museum as *Lycodon striatus* (Shaw).

DRYOCALAMUS GRACILIS (Günther)

*Odontomus gracilis* Günther, 1864, Rept. Brit. India, p. 234: Anaimalai Hills, India.

♂ (M. C. Z. 4105) Madras (R. H. Beddome) N. D.

Midbody scale-rows 15; ventrals 237; anal 1; subcaudals 83+; upper labials 7 (3, 4); loreal 1; preocular 1 (L) or 2 (R), apparently a reversion to the more primitive condition in which the loreal is separated from the eye by a preocular; postocular 1; temporals 2 + 3. Total length of ♂, 274+ (220 + 54+) mm.

SIBYNOPHIS COLLARIS (Gray)

*Psammophis collaris* Gray, 1853, Ann. Mag. Nat. Hist. (2), 12, p. 390: Khasi Hills, India.

♀ ♀, ♂ (M. C. Z. 3136, 3141, 3148) Kulu Valley (M. M. Carleton) 1874.

Midbody scale-rows 17; ventrals 173–176; anals 2; subcaudals 72+ – 85+; upper labials 10 (4, 5, 6); loreal 1; preoculars 1; postoculars 2; temporals 1 + 2. Total length of ♀ (M. C. Z. 3136), 583+ (428 + 155+) mm.

SIBYNOPHIS SUBPUNCTATUS (Duméril & Bibron)

*Oligodon subpunctatus* Duméril & Bibron, 1854, Erpét. Gén., 7, p. 58: Malabar, India.

♂ (M. C. Z. 3897) near Madras (R. H. Beddome) N. D.

♂ (M. C. Z. 5395) Calcutta (No further data).

♀ ♀, ♂ (M. C. Z. 18047–9) Taliparamba, Madras (F. Wall) 1923.

Midbody scale-rows 17; ventrals 161–170; anals 2; subcaudals 57–64; upper labials 9 (4, 5, 6); loreal 1; preocular 1; postoculars 2; temporals 2 + 2. Total length of ♂ (M. C. Z. 3897), 382 (286 + 96) mm.

NATRIX PISCATOR (Schneider)

*Hydrus piscator* Schneider, 1799, Hist. Amphib., 1, p. 247: East Indies.

♀, ♂ (M. C. Z. 3112, 3193) Calcutta (W. Theobald) 1866.

♂ ♂ (M. C. Z. 3855, 3887) near Madras (R. H. Beddome) N. D.

♀, ♂ (M. C. Z. 7540, 15716) Lucknow (T. Barbour) 1907.

Midbody scale-rows 19; ventrals 136-146; anals 2; subcaudals 62-88; upper labials 9 (4, 5) except in M. C. Z. 7540 which has 9 (4) on the right and 10 (5) on the left; loreal 1; preoculars 1-2 (2 on right of M. C. Z. 3112 only); postoculars 3-4 (4 on left of M. C. Z. 3112 only, while M. C. Z. 15716 has 4 post + suboculars on each side); temporals 2 + 2 and 2 + 3. Total length of ♀ (M. C. Z. 7540), 864 (630 + 234) mm.

In coloration M. C. Z. 3112 and 7540 belong to form I, part 1, of Smith (1943, pp. 295-6). M. C. Z. 3887 and 15716 are of form I, part 2 (*sancti-johannis*), while M. C. Z. 3193 and 3855 are nearest to form II (*flavipunctata* of the Indo-Chinese region from Assam eastwards).

#### NATRIX HIMALAYANA (Günther)

*Tropidonotus himalayanus* Günther, 1864, Rept. Brit. India, p. 265, pl. xxii, fig. H: Sikkim and Nepal, India.

♀ (M. C. Z. 3896) "near Madras" (R. H. Beddome) N. D.

♀ (M. C. Z. 22386) Darjeeling (Brit. Mus.) 1926.

Midbody scale-rows 19; ventrals 163-168; anals 2; subcaudals 81-87; upper labials 8 (4, 5); loreal 1; preocular 1; postoculars 3; temporals 1 + 1, 1 + 2, and 2 + 2. Total length of ♀ (M. C. Z. 22386), 695 (530 + 165) mm.

The locality of M. C. Z. 3896 is placed in quotes as probably wrong for, if correct, it would increase the range of this species very greatly.

#### NATRIX SUBMINIATA (Schlegel)

*Tropidonotus subminiatus* Schlegel, 1837, Phys. Serp., 2, p. 313: Java.

♀ (M. C. Z. 7233) Samaguting, Assam (Capt. Butler) 1908.

Midbody scale-rows 19; ventrals 169; anals 2; subcaudals 78; upper labials 8 (3, 4, 5) on the left, 9 (4, 5, 6) on the right; loreal 1; preocular 1; postoculars 2; temporals 2 + 2. Total length of ♂, 932 (700 + 232) mm.

This specimen is apparently referable to the rather doubtful race *N. s. helleri* Schmidt, as defined by Smith (1943, p. 303).

## NATRIX STOLATA STOLATA (Linnaeus)

*Coluber stolatus* Linnaeus, 1758, Syst. Nat. (ed. 10), 1, p. 219; and 1766 (ed. 12), 1, p. 379: Asia.

- ♀ ♀ (M. C. Z. 3111, 3185) Calcutta (W. Theobald) 1866.  
 4 ♂ ♂, ♀ ♀, juv. (M. C. Z. 3871, 3889) near Madras (R. H. Beddome)  
 N. D.  
 ♂, 3 ♀ ♀ (M. C. Z. 4267) Ambala (M. M. Carleton) 1877.  
 ♀ (M. C. Z. 7534) Lucknow (T. Barbour) 1907.

Midbody scale-rows 19; ventrals 123-152; anals 2; subcaudals 54-80; upper labials 6 (2, 3), 7 (2, 3, 4), 7 (3, 4), 7 (3, 4, 5), 8 (3, 4, 5), 8 (4, 5), and 9 (4, 5, 6), the third and fifth arrangements being most frequent with each appearing five times; loreal 1; preocular 1; postoculars 3, except M. C. Z. 4267A, which has 4 on the right side; temporals 1 + 1, 1 + 2, or 1 + 3 (latter in one instance only). Total length of ♀ (M. C. Z. 3185), 451+(420 + 31+) mm.

My reasons for employing trinomials are explained below.

## NATRIX STOLATA BEDDOMII (Günther)

*Tropidonotus beddomii* Günther, 1864, Rept. Brit. India, p. 269, pl. xxii, fig. E: Nilgiri Hills, India.

- ♂ ♂, ♀ ♀, juv. (M. C. Z. 3841, 3905, 47898-9) near Madras  
 (R. H. Beddome) N. D.  
 ♂ ♂ (M. C. Z. 6204) Anaimalai Hills (Brit. Mus.) 1888.

Midbody scale-rows 19; ventrals 141-149; anals 2; subcaudals 62-72; upper labials 8 (3, 4, 5) or 8 (4, 5); loreal 1; preocular 1, semi-divided on right side of M. C. Z. 6204A; postoculars 3; temporals 1 + 0 (one example only), 1 + 1, and 1 + 2. Total length of ♂ (M. C. Z. 47898), 482 (360 + 122) mm.

The essential differences between *N. stolata* and *N. beddomii* may be discussed according to Boulenger (1890, p. 342) and M. A. Smith (1943, pp. 284 and 303-306) as follows:

1. The internasals are said to be narrowly truncate in *stolata*, allegedly broadly truncate in *beddomii*. However, the internasals are moderately truncate in four *stolata* (M. C. Z. 3871, 3889C), and in two *beddomii* (M. C. Z. 6204A, 6204B).

2. The frontal is identical in shape and proportions in examples of both "species," e.g. *stolata* (M. C. Z. 3889D) and *beddomii* (M. C. Z. 47899).



3. Both ventral and subcaudal counts of *beddomii* are included in those of *stolata* as given by M. A. Smith (1943, pp. 304-306).

4. Bidentate scales are, of course, common to both reptiles.

5. Hemipenes of *stolata* extend only to the eighth subcaudal, while in *beddomii* they reach to the twelfth according to M. A. Smith (loc. cit). However it extends to the twelfth subcaudal and is forked at the tip and spinose in both *stolata* (M. C. Z. 3889E) and *beddomii* (M. C. Z. 47898).

6. Maxillary teeth are said to number 21-24 in *stolata*, 28-34 in *beddomii* according to Dr. Smith (loc. cit). However, careful examination of a *stolata* (M. C. Z. 3889B) revealed 13 teeth, the last one abruptly enlarged and somewhat separated from the rest, but the gaps between the teeth indicated some had been shed and suggested a probable total of 26 teeth. Similarly in a *beddomii* (M. C. Z. 47899) there were also 13 teeth, the last one enlarged and separated from the rest, but in this case the gaps indicated a total of 27 teeth. In both "species" the teeth and their arrangement on the jaw seemed identical.

7. It is in coloration that the greatest difference is to be found, yet the yellow stripe so characteristic of *stolata* is formed merely by the fusion of the lateral yellow spots that one sees in *beddomii*. This stripe is often absent anteriorly in *stolata* so that their front part frequently resembles that of *beddomii*. The stripe is absent in *stolata* hatchlings which are indistinguishable from *beddomii* hatchlings except that the former tend to be more brightly colored. A yellow bar in front of the eye is usually present in *stolata*, but an occasional specimen (M. C. Z. 3889B) may be indistinguishable in this respect from a *beddomii* (M. C. Z. 47899).

#### NATRIX MONTICOLA (Jerdon)

*Tropidonotus monticolus* Jerdon, 1853, Journ. Asiatic Soc. Bengal, 22, p. 530: Wynaad, India.

♂, ♀ (M. C. Z. 3874, 3909) near Madras (R. H. Beddome) N. D.

Midbody scale-rows 19; ventrals 134-144; anals 2; subcaudals m. & 77; upper labials 8 (3, 4, 5), except on left side of M. C. Z. 3874, where there are 6 (3, 4); loreal 1; preocular 1; postoculars 3, except on right side of M. C. Z. 3909 where there are 4; temporals 2 + 2. Total length of ♀ (M. C. Z. 3909), 599 (430 + 169) mm.

While the coloring of M. C. Z. 3874 is normal, that of M. C. Z. 3909 is uniform dark green above except for a very few yellow flecks on

the flanks. It has a faint yellow line across the head just behind the eyes, but no collar or line across the back of the head; the dots on the frontal are present.

#### MACROPISTHODON PLUMBICOLOR (Cantor)

*Tropidonotus plumbicolor* Cantor, 1839, Proc. Zool. Soc. London, p. 54: Malwa (Saugor), Central India.

4 ♂♂ (M. C. Z. 3838, 3902) near Madras (R. H. Beddome) N. D.  
♂, ♀ (M. C. Z. 6205) Anaimalai Hills, at 4,700 feet (Brit. Mus.)  
1888.

Midbody scale-rows 25; ventrals 147-153; anals 2; subcaudals 37-47 (♂♂ 41-47, ♀ 37); upper labials 7 (3, 4); loreal 1, or 0 in two specimens; preoculars 2; postoculars 3; temporals 2 + 2 or 2 + 3. Total length of ♀, 643 (565 + 78) mm.

#### ATRETIUM SCHISTOSUM (Daudin)

*Coluber schistosus* Daudin, 1803, Hist. Nat. Rept., 7, p. 132: Type locality unknown.

♂, ♀ (M. C. Z. 1330) Periyakulam, Madura District (D. C. Scudder)  
1863.

♂ (M. C. Z. 3907) near Madras (R. H. Beddome) N. D.

Midbody scale-rows 19; ventrals 144-153; anals 2; subcaudals 59-84; upper labials 9 (4, 5); loreal 1; preocular 1; postoculars 3, or 2 on right side of M. C. Z. 3907; temporals 2 + 1 or 2 + 2. Total length of ♀, 588 (468 + 120) mm.

#### TRACHISCHIUM MONTICOLA (Cantor)

*Calamaria monticola* Cantor, 1839, Proc. Zool. Soc. London, p. 50: Naga Hills, India.

♂ (M. C. Z. 22382) Shillong, Assam (Brit. Mus.) 1926.

Midbody scale-rows 15; ventrals 122; anals 2; subcaudals 31+ (apparently only a single shield missing); upper labials 6 (3, 4); loreal 1; preocular 1; postoculars 2; temporals 1 + 1. Total length of ♂, 184 (157 + 27) mm.

## TRACHISCHIUM FUSCUM (Blyth)

*Calamaria fusca* Blyth, 1854, Journ. Asiatic Soc. Bengal, **23**, p. 288: Darjeeling, India.

♀ (M. C. Z. 7513) Rungeel Valley, Sikkim (unlocated) (T. Barbour) 1906.

♂ (M. C. Z. 7514) Tista Valley, Bhutan Border (T. Barbour) 1906.

Midbody scale-rows 13; ventrals 155; anals 2; subcaudals 35-38; upper labials 6 (3, 4); loreal 1; preocular 1; postocular 1; temporals 1 + 1 or 1 + 2. Total length of ♀, 376 (324+52) mm.

The anal shield is divided in these specimens as in all our examples of *Trachischium*, though M. A. Smith's (1943, p. 321) generic description calls for a single anal.

## TRACHISCHIUM TENUICEPS (Blyth)

*Calamaria tenuiceps* Blyth, 1854, Journ. Asiatic Soc. Bengal, **23**, p. 288: Darjeeling, India.

♂ (M. C. Z. 22388) near Darjeeling (Brit. Mus.) 1926.

Midbody scale-rows 13; ventrals 136; anals 2; subcaudals 41; upper labials 6 (3, 4), loreal 1; preocular 1; postoculars 2; temporals 1 + 1. Total length of ♂, 290 (240 + 50) mm.

## XYLOPHIS PERROTETI (Duméril &amp; Bibron)

*Platypteryx perroteti* Duméril & Bibron, 1854, Erpét. Gén., **7**, p. 501: Nilgiri Hills, India.

4 ♀ ♀ (M. C. Z. 3847, 3866, 3901) near Madras (R. H. Beddome) N.D.

Midbody scale-rows 13; ventrals 136-147; anal 1; subcaudals 14-22; upper labials 5 (3, 4); loreal 1; preocular 0; postocular 1; temporals 1 + 2. Total length of ♀ (M. C. Z. 3901), 294 (275 + 19) mm.

The sublinguals are separated from the first ventral by two small scales in M. C. Z. 3847, the remaining snakes conform to the illustration given by M. A. Smith (1943, p. 342, fig. 110).

## BOIGA OCHRACEA OCHRACEA (Günther)

*Dipsas ochraceus* Günther, 1868, Ann. Mag. Nat. Hist. (4), **1**, p. 425: "Pegu," Burma.

♂ (M. C. Z. 3886) "near Madras" (R. H. Beddome) N. D.

Midbody scale-rows 21; ventrals 225; anal 1; subcaudals 108; upper labials 8 (3, 4, 5); loreal 1; preocular 1; postoculars 2; temporals 2 + 2 (L) or 2 + 3 (R). Total length of ♂, 835 (650 + 185) mm.

The hemipenes of this specimen are spined on the proximal as well as the distal half — contrary to the description in M. A. Smith (1943, p. 347). This snake, although rather faded, was apparently uniform brown in color, as called for in Dr. Smith's key (p. 346), and fails to show the more or less distinct crossbars described on pp. 348–349. The locality of our specimen is presumably incorrect.

### BOIGA TRIGONATA (Schneider)

*Coluber trigonatus* Schneider, 1802, in Bechstein's transl. of Lacépède, 4, p. 256, pl. xl, fig. 1: Vizagapatam, India.

♂, ♀ (M. C. Z. 3898) near Madras (R. H. Beddome) N. D.

♀ ♀ (M. C. Z. 5401) 70 miles s. w. of Ambala (M. M. Carleton) 1879.

♂ (M. C. Z. 15798) Karachi, Sind (F. Wall) 1921.

♀ (M. C. Z. 46624) Sabathu, Punjab (J. Carleton) N. D.

♀ (M. C. Z. 46888) Karachi, Sind (U. S. Nat. Mus.) 1944.

Midbody scale-rows 21; ventrals 218–237; anal 1; subcaudals 78–88; upper labials 8 (3, 4, 5); loreal 1; preocular 1; postoculars 2, or 3 on right side of M. C. Z. 15798 only; temporals 2 + 2 or 2 + 3. Total length of ♀ (M. C. Z. 5401), 818 (660 + 158) mm.

In showing the 3rd, 4th, and 5th labials entering the orbit, these snakes, like all other Indian specimens of *Boiga* in the collection with one exception, agree with M. A. Smith's (1943, p. 345) fig. C, but not with the accompanying text which states 4th, 5th, and 6th.

### BOIGA CEYLONENSIS NUCHALIS (Günther)

*Dipsas nuchalis* Günther, 1875, Proc. Zool. Soc. London, p. 233: West Coast of India.

♂ (M. C. Z. 3876) near Madras (R. H. Beddome) N. D.

♀ (M. C. Z. 18062) Taliparamba, Madras (F. Wall) 1923.

Midbody scale-rows 21, or 23 in M. C. Z. 18062; ventrals 234–241; anal 1; subcaudals 101–102; upper labials 8 (3, 4, 5); loreal 1; preocular 1; postoculars 2; temporals 2 + 3, 3 + 3, or 3 + 5. Total length of ♂, 671 (522 + 149) mm.

M. C. Z. 18062 was received from Colonel Wall as *nuchalis* and

both of these snakes agree with this form as outlined by Malcolm Smith (1943 p. 352). When Wall (1909 pp. 151-154) split *ceylonensis* into four forms (*ceylonensis*, *nuchalis*, *beddomei*, and *andamanensis*) he believed that each was a full species, although in later papers (1924 p. 870 for example) he admitted that their specific rank would probably be denied by most students. On the other hand, when I consider the very large number of examples examined by Colonel Wall (72 of *ceylonensis* and 59 of *nuchalis*) I am inclined to think that he has shown the differences between these forms to be adequately constant to require their subspecific recognition.

### BOIGA MULTIFASCIATA (Blyth)

*Dipsas multifasciatus* Blyth, 1860, Journ. Asiatic Soc. Bengal, 29, p. 114:  
Sabathu, Simla, India.

♀ (M. C. Z. 3228) Kulu Valley (M. M. Carleton) 1872.

Midbody scale-rows 21; ventrals 245; anal 1; subcaudals 103; upper labials 8 (3, 4, 5); loreal 1; preoculars 1 or 2; postoculars 2; temporals 2 + 2 or 2 + 3, (1 + 2 or 2 + 3 are characteristic according to M. Smith, 1943, p. 357). This snake is unusual in having only 8 + 2 maxillary teeth since Dr. Smith (loc. cit.) gives 10 or 11 + 2 as the usual range. Total length of ♀, 1112 (890 + 222) mm.

As regards coloration our example has about 85 rather broken up oblique bars on the sides, the bars generally fusing dorsally to form a series of V-shaped marks. The characteristic dorsal white spots are very much reduced and posteriorly they are only indicated by a discontinuous vertebral line.

Dr. Malcolm Smith states (loc. cit.) that the vertebral scales are not strongly enlarged in this species, although Stoliczka (1870, p. 199) mentions the reverse as being true. Our specimen shows moderately strong enlargement anteriorly and strong enlargement on the posterior third of the body. At midbody the scales do not appear to be enlarged, but this is apparently due to the large vertebrales being split into two or three small scales. This phenomenon was noted by Wall (1909 p. 352).

In discussing *B. ceylonensis* both Smith (1943 p. 353) and Wall (1909 p. 153, 1911 p. 279, 1919 p. 571, and 1924 p. 872) mention a few specimens of this species, as coming from localities (Orissa, Nepal and Assam) far north of the usual range. Both authors note the rarity of these records, the species being very common in South

India and Ceylon, and Smith expresses doubt as to the identification of these northern specimens. The two juveniles from Nepal (apparently the only northern examples examined by Dr. Smith) are described by him (loc. cit.) as having 21 midbody scale-rows; only 2 anterior temporals; and a different color pattern, the vertebral spots being absent and in their place a series of transverse or oblique bars. A similar color pattern is described for the Orissa specimen by Wall (1911 p. 279). All of these points seem to characterize *multifasciata* rather than *ceylonensis*. The only other characters given by Dr. Smith as differentiating these two species seem to be the enlargement of the vertebrales (strongly in *ceylonensis*, not strongly in *multifasciata*), a point already discussed; a slight difference in the number of maxillary teeth (10 or 11 + 2 in *multifasciata*, 12 to 20 + 2 in *ceylonensis*); and the presence of dorsal white spots in *multifasciata*, though they may be very much reduced, as in our example.

I think, therefore, that the northern specimens known as *ceylonensis* are probably the Himalayan *multifasciata* and that *ceylonensis* (including its subspecies) is confined to the hills of South India, Ceylon, and the Andaman Islands.

Our specimen is a gravid female with nine eggs measuring 35 x 18 mm. on the average.

#### BOIGA FORSTENI (Duméril & Bibron)

*Triglyphodon forsteni* Duméril & Bibron, 1854, *Erpét. Gén.*, 7, p. 1077: Type locality unknown.

♀ (M. C. Z. 22383) India (Brit. Mus.) 1926.

Midbody scale-rows 27; ventrals 265; anal 1; subcaudals 102; upper labials 9 (3, 4, 5) on left, 10 (4, 5, 6) on right; loreal 1; preocular 1; postoculars 2; temporals 3 + 3, or 3 + 4. Color uniform. Total length of ♀, 1283 (1030 + 253) mm.

#### PSAMMOPHIS LEITHII Günther

*Psammophis leithii* Günther, 1869, *Proc. Zool. Soc. London*, p. 505, pl. xxxix: Sind, India.

♂ (M. C. Z. 3151) Ambala (M. M. Carleton) N. D.

Midbody scale-rows 17; ventrals 170; anal 1; subcaudals 47+; upper labials 8 (4, 5); loreal 1; preocular 1; postoculars 2; temporals 1 + 2. Total length of ♂, 610+ (490 + 120+) mm.

## PSAMMODYNASTES PULVERULENTUS (Boie)

*Psammophis pulverulenta* Boie, 1827, Isis von Oken, p. 547: Java.

♂ (M. C. Z. 3891) near Madras (R. H. Beddome) N. D.

Midbody scale-rows 17; ventrals 159; anal 1; subcaudals 61; upper labials 8 (3, 4, 5); loreal 1; preoculars 2; postoculars 2; temporals 2 + 2. Total length of ♂, 433 (340 + 93) mm.

## DRYOPHIS PERROTETI (Duméril &amp; Bibron)

*Psammophis perroteti* Duméril & Bibron, 1854, Erpét. Gén., 7, p. 899: "Indes Orientales."

♂ ♂, ♀ ♀ (M. C. Z. 3859, 3878, 3900) near Madras (R. H. Beddome) N. D.

♀, juv. (M. C. Z. 4180) "Pegu, Burma" (E. Gerrard) 1877.

Midbody scale-rows 15; ventrals 138-143; anals 2; subcaudals 65-80; upper labials 8 (4, 5); loreal 0; preocular 1; postocular 1; temporals 1 + 2. Total length of ♀ (M. C. Z. 4180), 558 (420 + 138) mm.

As might be expected the males show more subcaudals (76-80) than do the females (65-71) though M. A. Smith (1943, p. 373) gives the females more (71-86) than the males (65-75). The coloration of three specimens is the usual green (blue in alcohol), while the other three are olive brown above, as in Dr. Smith's specimen from the Nilgiri Hills. The locality on M. C. Z. 4180 is almost certainly erroneous.

## DRYOPHIS DISPAR (Günther)

*Tragops dispar* Günther, 1864, Rept. Brit. India, p. 303, pl. xxiii, fig. A: Anaimalai Hills, India.

♀ (M. C. Z. 33516) Kodaikanal, Palni Hills (Senckenberg Mus.) 1932.

♀, ♂ (M. C. Z. 48800, 48953) near Madras (R. H. Beddome) N. D.

Midbody scale-rows 15; ventrals 143-150; anals 2; subcaudals 86-112; upper labials 8 (4, 5) and no pre-subocular in M. C. Z. 48953, 8 (5) with 2 pre-suboculars in M. C. Z. 48800, 7 (4) on right and 6 (3) on left side with 1 pre-subocular in M. C. Z. 33516; loreals 1-2; preocular 1; postoculars 2; temporals 1 + 2 or 2 + 2. Total length of ♀ (M. C. Z. 33516), 617 (445 + 172) mm.

The internasals are separated from the labials in M. C. Z. 48953 and 33516, while they are in contact in M. C. Z. 48800.

### DRYOPHIS FRONTICINCTUS Günther

*Dryophis fronticinctus* Günther, 1858, Cat. Col. Snakes Brit. Mus., p. 158:  
Type locality unknown.

♀ (M C Z 18394) no locality (W. N. Parker) 1924.

Midbody scale-rows 15; ventrals 188; anals 2; subcaudals 77+; upper labials 8 (5) with 2 large and 1 small pre-suboculars; loreals 2; preocular 1 (in contact with frontal); postoculars 2; temporals 2 + 3. Total length of ♀, 800+ (600 + 200+) mm.

Nasals well-separated, *not* in contact behind the rostral. This snake was given by Günther to Prof. W. N. Parker for help given the British Museum; Parker gave it to A. Loveridge who brought it to the Museum of Comparative Zoölogy.

### DRYOPHIS NASUTUS (Lacépède)

*Coluber nasutus* Lacépède, 1789, Hist. Nat. Serp., 2, pp. 100, 277, pl. iv, fig. 2:  
Ceylon (restricted).

head, ♂ (M. C. Z. 3899) near Madras (R. H. Beddome) N. D.  
head (M. C. Z. 4754) Calcutta (No further data).

Midbody scale-rows 15; ventrals 185; anals 2; subcaudals 177+; upper labials 8 (5); pre-suboculars 1-2; loreal 0; preocular 1; postoculars 2; temporals 1 + 2, 2 + 2, 2 + 3, or 2 + 4. Total length of ♂, 429+ (275 + 154+) mm.

### DRYOPHIS PULVERULENTUS (Duméril & Bibron)

*Dryinus pulverulentus* Duméril & Bibron, 1854, Erpet. Gén., 7, p. 812: Type  
locality unknown.

head (M. C. Z. 3906) near Madras (R. H. Beddome) N. D.

Nasals not in contact; upper labials 8 (5); pre-suboculars 2; loreal 0; preocular 1; postoculars 2; temporals 2 + 3.



## ENHYDRIS ENHYDRIS (Schneider)

*Hydrus enhydris* Schneider, 1799, Hist. Amphib., 1, p. 245: "Indiae orientalis."

♀ (M. C. Z. 3192) Calcutta (W. Theobald) 1866.

Midbody scale-rows 21; ventrals 161; anals 2; subcaudals 61; upper labials 8 (4); loreal 1; preocular 1; postocular 2; temporals 1 + 2. Total length of ♀, 470 (381 + 89) mm.

In color pattern this snake conforms to group 1 of M. A. Smith (1943, p. 384).

## ENHYDRIS SIEBOLDII (Schlegel)

*Homalopsis sieboldii* Schlegel, 1837, Phys. Serp., 2, p. 349, pl. xiii, figs. 4-5: Bengal, India.

♀ (M. C. Z. 22384) Fyzabad, United Provinces (Brit. Mus.) 1926.

Midbody scale-rows 29; ventrals 148; anals 2; subcaudals 50; upper labials 8 (4), the last two horizontally divided; loreal 1; preoculars 1 (R) or 2 (L); postoculars 2; temporals 1 + 2 (R) or 1 + 3 (L). Total length of ♀, 441 (365 + 76) mm.

## CERBERUS RHYNCHOPS (Schneider)

*Hydrus rhyrachops* Schneider, 1799, Hist. Amph., 1, p. 246: Ganjam, India.

♂ (M. C. Z. 2229) Pondichéry (Paris Mus.) 1865.

♂ (M. C. Z. 5501) Calcutta (Peabody Mus., Salem) 1886.

♀ (M. C. Z. 5589) Calcutta (C. Williams) 1886.

Midbody scale-rows 23-25; ventrals 147-154; anals 2; subcaudals 54-63; nostril connected by suture with second (not first) labial in M. C. Z. 5501; upper labials 10, none entering orbit, last two or three horizontally divided; loreal 1; preocular 1; suboculars 2; postoculars 2; temporals 1 + 2 (in M. C. Z. 2229), broken up and scale-like in others. Total length of ♂ (M. C. Z. 5501), 550 (440 + 110) mm.

## ELAPIDAE

## BUNGARUS FASCIATUS (Schneider)

*Pseudoboa fasciata* Schneider, 1801, Hist. Amphib., 2, p. 283: Bengal, India.

♂ (M. C. Z. 3108) Calcutta (W. Theobald) 1866.

Midbody scale-rows 15; ventrals 210; anal 1; subcaudals 39; upper labials 7 (3, 4); loreal 0; preocular 1; postoculars 2; temporals 1 + 2. Coloration normal. Total length of ♂, 1510 (1360 + 150) mm.

### BUNGARUS CAERULEUS (Schneider)

*Pseudoboia caerulea* Schneider, 1801, Hist. Amphib., 2, p. 284: Vizagapatam, India.

♂ (M. C. Z. 3213) Ambala (M. M. Carleton) 1886.

♂ (juv.) (M. C. Z. 7572) Lucknow (T. Barbour) 1906.

♂ (M. C. Z. 18060) Taliparamba, Madras (F. Wall) 1924.

♂, ♂ (juv.) (M. C. Z. 46623, 46625) Sabathu, Punjab (J. Carleton) N. D.

Midbody scale-rows 15; ventrals 207-214; anal 1; subcaudals 40-51, the increase of 2 in the recognized range is due to a male (M. C. Z. 18060); upper labials 7 (3, 4) or 8 (4, 5) on left side of M. C. Z. 46625 only; loreal 0, except for M. C. Z. 46623 which is remarkable in having a loreal split off from the first labial on each side, preocular 1; postoculars 2; temporals 1 + 2. Total length of ♂ (M. C. Z. 46623), 990 (850 + 140) mm.

Considerable variation in color pattern is to be noted. In M. C. Z. 3213 there are no bars on the anterior portion, distinct paired bars being present on the tail only, they scarcely widen on the sides and, anteriorly in particular, there is a fairly prominent vertebral spot. In M. C. Z. 7572 the bars are more distinctly paired, widen a little laterally, and are otherwise as in M. C. Z. 3213. In M. C. Z. 18060 the bars are distinctly paired, some pairs being almost fused posteriorly, they widen considerably on the sides, particularly anteriorly; there are prominent vertebral spots. M. C. Z. 46625 is similar to M. C. Z. 7572, while M. C. Z. 46623 has rather faint bars with very little lateral widening; the vertebral spots are well defined.

### CALLIOPHIS NIGRESCENS (Günther)

*Calliophis nigrescens* Günther, 1862, Ann. Mag. Nat. Hist. (3), 9, p. 131: India.

♀ (M. C. Z. 3837) near Madras (R. H. Beddome) N. D.

Midbody scale-rows 13; ventrals 230; anal 1; subcaudals 32; upper labials 7 (3, 4); loreal 0; preocular 1; postoculars 2; temporals 1 + 2. Total length of ♀, 770 (700 + 70) mm.

The above counts increase the ventral range by 4; the specimen is also unusual in having an undivided anal. In coloration it approaches closest to form II of M. A. Smith (1943, p. 422), but the stripes are not black, only a deeper shade of the same purplish brown as the rest of the body. On the posterior half the white stripes practically disappear, as in Smith's form III.

As there appears to be no valid reason for changing Gray's spelling of *Calliophis* to Günther's emendation, *Callophis*, used by Dr. Smith, I adhere to the original form.

### CALLIOPHIS MACCLELLANDII (Reinhardt)

*Elaps macclellandii* Reinhardt, 1844, *Calcutta Journ. Nat. Hist.*, 4, p. 532: Assam, India.

♀ (M. C. Z. 22390) Shillong, Assam (Brit. Mus.) 1926.

Midbody scale-rows 13; ventrals 213; anals 2; subcaudals 30; upper labials 7 (3, 4); loreal 0; preocular 1; postoculars 2; temporals 1 + 1. Total length of ♀, 514 (465 + 49) mm.

Only slight traces of the black vertebral line remain, and the black crossbars, though rather reduced, are not broken up into transverse rows of spots. The belly is much splotched with black.

### NAJA NAJA NAJA (Linnaeus)

*Coluber naja* Linnaeus, 1758, *Syst. Nat.* (ed. 10), 1, p. 221: India.

♂ (M. C. Z. 1331) Periyakulam, Madura District (W. C. Scudder) 1843.

♀ (M. C. Z. 3229) Kulu Valley (M. M. Carleton) 1871.

♀ ♀ (M. C. Z. 3518-9) India (from charmers. M. M. Carleton) 1871.

♀ (M. C. Z. 5268) 70 miles s. w. of Ambala (M. M. Carleton) 1879.

♂ (M. C. Z. 7564) Lucknow (T. Barbour) 1907.

In addition there are several mounted specimens and skeletons on exhibition.

Midbody scale-rows 21-23; ventrals 187-191; anal 1; subcaudals 55-61; upper labials 7 (3, 4); loreal 0; preocular 1; postoculars 3; temporals 2 + 2, 2 + 3 (normally), or 2 + 4. Total length of ♀ (M. C. Z. 3519), 1510 (1270 + 240) mm.

In coloration M. C. Z. 1331 is pale above with very little reticulation, has no black bars on the belly, but exhibits clearly the spectacle mark of Smith's (1943, p. 433) form C. M. C. Z. 3229 is darker with

reticulation resulting from the dark-edged scales and pale interstitial skin. It has no bars on the belly, and the U-shaped spectacle mark is faint. M. C. Z. 5268 is medium brown with little reticulation, no bars on the belly, and the U-shaped spectacle mark is very faint. M. C. Z. 7564 is blackish above and below with only indistinct traces of a spectacle mark. M. C. Z. 3518 is palish brown anteriorly, blackish posteriorly. Bars are present on the belly and there is a fairly distinct spectacle. M. C. Z. 3519 is blackish, paler anteriorly and shows very little trace of the spectacle mark.

#### NAJA NAJA KAOUTHIA Lesson

*Naja kaouthia* Lesson, 1831, in Ferussac, Bull. Sci. Nat., 25, p. 122: Bengal, India.

♂ (M. C. Z. 4228) India (E. Gerrard) 1877.

Midbody scale-rows 21; ventrals 177; anal 1; subcaudals 52; upper labials 7 (3, 4); loreal 0; preocular 1; postoculars 3; temporals 2 + 3. Color normal in every way as in M. A. Smith (1943, p. 431), the monocellate mark on hood conforming to G of Smith (1943, p. 433). Total length of ♂, 1495 (1265 + 230) mm.

### HYDROPHIIDAE

#### LATICAUDA COLUBRINA (Schneider)

*Hydrus colubrinus* Schneider, 1799, Hist. Amphib., 1, p. 238: Type locality unknown.

♀ (M. C. Z. 4177) Indian Seas (E. Gerrard) 1877.

♂ (M. C. Z. 4834) Indian Seas (Boston Soc. Nat. Hist.) 1880.

Maximum scale-rows 23-25; ventrals 227-233; anals 2; subcaudals 34-43; upper labials 7 (3, 4); loreal 0; preocular 1; postoculars 2; temporals 1 + 2; M. C. Z. 4834 is abnormal in lacking an azygous prefrontal. Coloration of this snake is, however, normal with 34 crossbars or bands; there are 30 bands in M. C. Z. 4177 but the black head-marking does not coalesce with even the first nuchal band. Total length of ♀, 463 (415 + 48) mm.

Scale-counts of M. C. Z. 4834, but not of M. C. Z. 4177, are included in Dr. M. A. Smith's (1926, p. 9) "Monograph of the Sea-snakes."

## KERILIA JERDONI Gray

*Kerilia jerdoni* Gray, 1849, Cat. Sn. Brit. Mus., p. 57: Madras, India.

♂ (M. C. Z. 5207) Madras Coast (H. A. Ward) 1884.

Maximum scale-rows 21 (19 in Smith); ventrals 225; anals 2; upper labials 6 (3, 4); loreal 0; preocular 1; postocular 1; temporals 1 + 1, the anterior being confluent with the 6th labial. Coloration normal with 38 crossbars. Total length of ♂, 806 (720 + 86) mm.

These scale-counts are included in M. A. Smith's (1926, p. 32) "Monograph of the Sea-snakes," but the race *siamensis* he describes there was subsequently relegated to the synonymy by him (1943, p. 447).

## ENHYDRINA SCHISTOSA (Daudin)

*Hydrophis schistosus* Daudin, 1803, Hist. Nat. Rept., 7, p. 386: Tranquebar, India.

♀ (M. C. Z. 23514) Karachi (M. A. Smith) 1927.

♀ (juv.) (M. C. Z. 23515) Bombay (M. A. Smith) 1927.

Maximum scale-rows 61-63; ventrals 299-329; anals 2; upper labials 8 (3, 4); loreal 0; preocular 1 and 0; postocular 1; temporals 1 + 3 or 2 + 3. M. C. Z. 23515 is abnormal in having the prefrontals only slightly narrowed anteriorly; there is no preocular; and there are two small supernumerary scales on either side of the parietal suture. Its coloration, with 54 crossbars, not complete bands, is normal for a juvenile, while that of M. C. Z. 23514 is normal for an adult. Total length of ♀ (M. C. Z. 23514), 889 (780 + 109) mm.

Scale-counts of these examples are not included in M. A. Smith's (1926, pp. 39-40) "Monograph of the Sea-snakes."

## HYDROPHIS SPIRALIS (Shaw)

*Hydrus spiralis* Shaw, 1802, Gen. Zool., 3, p. 564, pl. cxxv: Indian Ocean.

♂ (M. C. Z. 9599) near Madras (R. H. Beddome) N. D.

♀ (M. C. Z. 10257) Indian Seas (Australian Mus.) 1914.

Maximum scale-rows 35 (33 according to Smith (1926, p. 50) for M. C. Z. 9599); ventrals 326-356; anals 2; upper labials 6 (3, 4) or 7 (3, 4); loreal 0; preocular 1; postoculars 1-2; temporals 1 + 2. In color both specimens are normal. M. C. Z. 9599 has 47 bars on

its body; 41-46 are usual for examples from Indian waters according to M. A. Smith (1943, p. 453). M. C. Z. 10257 has a pronounced dark ventral line. Total length of ♀, 542 (500 + 42) mm.

Except where noted, Dr. M. A. Smith has examined all our specimens of Hydrophiidae and included their scale-counts in his (1926) "Monograph of the Sea-snakes." Unless specifically mentioned my counts agree with his.

### HYDROPHIS CYANOCINCTUS Daudin

*Hydrophis cyanocinctus* Daudin, 1803, Hist. Nat. Rept., 7, p. 383: Sandarbans, India.

♀ (M. C. Z. 23611) Karachi (M. A. Smith) 1927.

Maximum scale-rows 45; ventrals 341; anals 2; upper labials 7 (3, 4); loreal 0; preocular 1; postoculars 2; temporals 2 + 2 or 2 + 3; frontal abnormal in being shorter than its distance from the rostral. In coloration the annuli are complete and a ventral stripe is present. Total length of ♀, 1365 (1250 + 115) mm.

Dr. M. A. Smith (1926, p. 58) mentions this snake, but omits its scale-counts.

### HYDROPHIS OBSCURUS Daudin

*Hydrophis obscura* Daudin, 1803, Hist. Nat. Rept., 7, p. 375: Sandarbans, India.

♀ (M. C. Z. 23669) Chilka Lake, Orissa (M. A. Smith) 1927.

Maximum scale-rows 33; ventrals 300; anals 2; upper labials 7 (3, 4); loreal 0; preocular 1; postocular 1; temporals 1 + 2. Color normal with 37 bars on the body. Total length of ♀, 762 (690 + 72) mm.

### HYDROPHIS STRICTICOLLIS Günther

*Hydrophis stricticollis* Günther, 1864, Rept. Brit. India, p. 376, pl. xxv, fig. R: India.

♂ (M. C. Z. 23673) Dhamoa River, Orissa (unlocated) (M. A. Smith) 1927.

Maximum scale-rows 46; ventrals 419; anals 2; upper labials 7 (3, 4); loreal 0; preocular 1; postoculars 1 (L) or 2 (R); temporals 1 + 3. The coloration is normal with about 51 crossbars. Total length of ♂, 1140 (1000 + 140) mm.

The locality may easily be the Dhamra River in Orissa.

## HYDROPHIS ORNATUS ORNATUS (Gray)

*Aturia ornata* Gray, 1842, Zool. Misc., p. 61: Indian Ocean.

♀ (M. C. Z. 5209) Madras Coast (H. A. Ward) 1884.

Maximum scale-rows 47; ventrals 312; anals 2; upper labials 7 (3, 4) or 8 (3, 4); loreal 0; preocular 1; postoculars 2; temporals 2 + 2 or 2 + 5. Coloration normal. Total length of ♀, 840 (750 + 90) mm.

## HYDROPHIS MAMILLARIS (Daudin)

*Anguis mamillaris* Daudin, 1803, Hist. Nat. Rept., 7, p. 340: Vizagapatam, India.

♂ (M. C. Z. 23663) Bombay (M. A. Smith) 1927.

Maximum scale-rows 39; ventrals 340; anals 2; upper labials 7 (3, 4); loreal 0; preocular 1; postoculars 2; temporals 2 + 3. Its color pattern includes a yellow streak in the temporal region and 44 ventrally connected bands. Total length of ♂, 715 (650 + 65) mm.

## HYDROPHIS FASCIATUS FASCIATUS (Schneider)

*Hydrus fasciatus* Schneider, 1799, Hist. Amphib., 1, p. 240: East Indies.

♂ (M. C. Z. 23627) Bengal (M. A. Smith) 1927.

Maximum scale-rows 51, decreasing to 29 on neck; ventrals 487; anals 2; upper labials 6 (3, 4); loreal 0; preocular 1; postoculars 1-2; temporals 1 + 2. Coloration normal with 74 crossbars, *not* complete bands. Total length of ♂, 777 (710 + 67) mm.

## ASTROTIA STOKESII (Gray)

*Hydrus stokesii* Gray, 1846, in Stokes, Discov. Australia, 1, p. 502, pl. iii: Australian Seas.

♂ (M. C. Z. 23499) Indian Ocean (M. A. Smith) 1927.

Maximum scale-rows 49; ventrals 254; anals 2; upper labials 8 (4, 5, 6); loreal 0; preocular 1; postoculars 2; temporals 2 + 5 or 3 + 4. Coloration normal with 33 complete bands. Total length of ♂, 1227 (1050 + 177) mm.

Dissection shows that this snake is undoubtedly a male though listed as a female by Dr. Smith (1926, p. 115).

## MICROCEPHALOPHIS GRACILIS GRACILIS (Shaw)

*Hydrus gracilis* Shaw, 1802, Gen. Zool., 3, p. 560: Type locality unknown.

juv. (M. C. Z. 5213) Madras Coast (H. A. Ward) 1884.

♂ (M. C. Z. 23796) India (M. A. Smith) 1927.

Maximum scale-rows 35; ventrals 252–259; anals 2; upper labials 6 (3, 4); loreal 0; preocular 1; postocular 1; temporals 1 + 1. M. C. Z. 5213 has oval spots anteriorly and 47 or 48 dorsal bands; in M. C. Z. 23796 the bands are extremely faint, particularly posteriorly. Total length of ♂, 765 (700 + 65) mm.

Scale-counts of these specimens are not included in Dr. Smith's (1926, p. 123) "Monograph of the Sea-snakes."

## MICROCEPHALOPHIS CANTORIS (Günther)

*Hydrophis cantoris* Günther, 1864, Rept. Brit. India, p. 374: "Penang."

♂, ♀ (M. C. Z. 5206, 5208) Madras Coast (H. A. Ward) 1884.

♂ (M. C. Z. 23795) Karwar, West Coast of India (M. A. Smith) 1927.

Maximum scale-rows 44–46 (41–44 in Smith); ventrals 416–447; anals 2; upper labials 6 (3, 4); loreal 0; preocular 1; postocular 1; temporals 1 + 1 or 1 + 2. Coloration normal; 53–65 bars on body and tail, and a dark ventral line. Total length of ♀ (M. C. Z. 5208), 1075 (990 + 85) mm.

Dissection shows M. C. Z. 5208 to be a female though listed as a male by Dr. Smith (1926, p. 126).

## PELAMIS PLATURUS (Linnaeus)

*Anguis platurus* Linnaeus, 1766, Syst. Nat. (ed. 12), 1, p. 391: Type locality unknown.

♀ (M. C. Z. 922) Bay of Bengal (J. M. Barnard) 1862.

♂ (M. C. Z. 4226) Indian Seas (E. Gerrard) 1886.

Maximum scale-rows 53–57; ventrals 330–338; anals 2; upper labials 7–8, separated from the orbit by suboculars; loreal 0; preocular 1; postoculars 2–3; temporals 3 + 5 or 4 + 3. In coloration M. C. Z. 922 conforms to form III and M. C. Z. 4226 to form I of M. A. Smith (1943, p. 476). Total length of ♂, 629 (550 + 79) mm.

Scale counts of these specimens are not included in Dr. Smith's (1926, pp. 119–120) "Monograph of the Sea-snakes."



## VIPERIDAE

## VIPERA RUSSELLI RUSSELLI (Shaw)

*Coluber russelli* Shaw, 1797, Nat. Misc., 8, pl. cxcxi: Type locality unknown.

juv. (M. C. Z. 4193) India (E. Gerrard) 1877.

♂ (M. C. Z. 18405) India (A. Loveridge) 1924.

juv. (M. C. Z. 46627) Sabathu, Punjab (J. Carleton) N. D.

Midbody scale-rows 29; ventrals 166-169; anal 1; subcaudals 47-49; upper labials 11; 3 scales between labials and eye; 11-14 scales around eye; 2 scales between eye and nasal; nasorostral present; temporals broken up and scale-like. Coloration normal. Total length of ♂, 956 (810 + 146) mm.

Whether all the above material should be assigned to the typical form is uncertain in view of the poor locality data and the very slight racial characters assigned to the alleged subspecies described by Deraniyagala (1945, pp. 110-112).

## ECHIS CARINATUS CARINATUS (Schneider)

*Pseudoboa carinata* Schneider, 1801, Hist. Amphib., 2, p. 285 (based on Russell): Arni, India.

3 ♂ ♂, 2 juv. (M. C. Z. 3843, 3882, 3888) near Madras (R. H. Beddome) N. D.

Midbody scale-rows 27-29; ventrals 139-154; anal 1; subcaudals 23-33; upper labials 8-10, none entering the orbit; circumorbital scales exclusive of supraocular 9-11; supraoculars separated by 8-9 scales; usually a single (2 on one side in one specimen) scale between the eye and labials; 3 scales between the eye and nasal. Total length of ♂ (M. C. Z. 3843), 333 (290 + 43) mm.

My reasons for using trinomials are given below.

## ECHIS CARINATUS PYRAMIDUM (Geoffroy)

*Scythale pyramidum* Geoffroy, 1827, Descr. Égypte, Rept., p. 152, pl. vii, fig. 1: Egypt.

♂ (M. C. Z. 3226) Bengal (M. M. Carleton) 1869.

♀ (M. C. Z. 3765) Ambala (M. M. Carleton) N. D.

3 ♂ ♂ (M. C. Z. 5405) 100 miles south of Ambala (M. M. Carleton) 1879.

2 juv. (M. C. Z. 15805-6) Karachi (F. Wall) 1921.

♂ (M. C. Z. 46626) Karauli District, Rajputana (J. Carleton)  
N. D.

Midbody scale-rows 31-35; ventrals 162-172; anal 1; subcaudals 27-31; upper labials 10-12, none entering the orbit; circumorbital scales exclusive of supraocular 11-15; supraoculars separated by 9-12 scales (9 in one specimen only); 2 scales between the eye and labials; 4 scales between the eye and nasal. Total length of ♂ (M. C. Z. 3226), 467 (420 + 47) mm.

In examining our series of the saw-scaled viper it soon became clear that two distinct races were present. Typical specimens from Madras show considerably reduced scale counts — particularly on the head — as compared with snakes from northern India, Arabia, Egypt, and presumably elsewhere in North Africa. These differences can best be seen when contrasted as follows:

<i>Squamation</i>	<i>Madras</i>	<i>North India</i>
Midbody scale-rows	27-29	31-35
Ventrals	139-154	162-172
Upper labials	8-10	10-12
Circumorbitals excluding supraocular	9-11	11-15
Scales separating supraoculars	8-9	9-12
Scales separating eye from labials	1 (very rarely 2)	2
Scales separating eye from nasal	3	4

Dr. Malcolm Smith, who (1943, p. 488) had already noted the difference in midbody scale-rows, kindly supplied scale counts taken from four specimens in the British Museum, and these confirmed the opinion already arrived at.

The problem arose as to which race was originally figured by Russell, as it is impossible to tell this from his plate, and the figured specimen is no longer in existence according to Dr. Smith. However, the locality (Arni) from which it came is so close to Madras that it is fair to assume that this was the form subsequently named *E. carinatus* by Schneider. In seeking a name for the race inhabiting Northern India, Persia, Arabia, and North Africa, I found that *Echis ziczac* Gray is the earliest name not based on Russell, according to the synonymy of *Echis carinatus* in M. Smith (1943 p. 487). However, this name was not founded on actual specimens but is based on *E. zic zac* Daudin and *Boa horrata* Schneider. The next available name is *Scythale pyramidum* Geoffroy which must antedate *E. arenicola* Boie since, in his description, Boie mentions Geoffroy's description.

## CROTALIDAE

## AGKISTRODON HIMALAYANUS (Günther)

*Halys himalayanus* Günther, 1864, Rept. Brit. India, p. 393, pl. xxiv, fig. A: Garhwal, W. Himalayas, India.

13 ♂ ♂, 7 ♀ ♀ (M. C. Z. 3138-40, 3143, 3149, 3227, 3230, 4023, 4800) Kulu Valley (M. M. Carleton) 1874.  
♀ (M. C. Z. 3150) Ambala (M. M. Carleton) 1873.

Midbody scale-rows 21; ventrals 153-162 (♂ ♂), 160-166 (♀ ♀); anal 1; subcaudals 43-51 (♂ ♂), 38-45 (♀ ♀); upper labials 6-7 (3); loreal 1; preoculars 2; subocular 1; postoculars 1-2 (2 on right side of M. C. Z. 3140 only); temporals 1 + 3, 1 + 4, 2 + 3, or 2 + 4, always with 3 large inferior ones. Total length of ♂ (M. C. Z. 3139B), 595 (505 + 90) mm., of ♀ (M. C. Z. 3139A), 541 (470 + 71) mm.

One female (M. C. Z. 3230) is gravid with 7 eggs in the oviducts.

## AGKISTRODON HYPNALE (Merrem)

*Cophias hypnale* Merrem, 1820, Syst. Amph., p. 155: Ceylon

♂ ♀ (M C Z 3879, 3894) near Madras (R. H. Beddome) N.D.  
♂, 3 ♀ ♀ (M. C. Z. 18067-9) Taliparamba, Madras (F. Wall) 1923.

Midbody scale-rows 17; ventrals 136-150; anal 1; subcaudals 33-46; upper labials 7 (0); loreal 1; preoculars 2; subocular 1; postocular 1; temporals 2 + 3, 2 + 4, 2 + 5, 3 + 3 or 3 + 4. Total length of ♀ (M. C. Z. 18067), 370 (323 + 47) mm.

## TRIMERESURUS MACROLEPIS Beddome

*Trimeresurus macrolepis* Beddome, 1862, Madras Quart. Journ. Med. Sci., 5, p. 2, pl. ii, fig. 6: Anaimalai Hills, India.

♀, ♀ ?, head (M. C. Z. 3864, 3890) near Madras (R. H. Beddome) N. D.

Midbody scale-rows 12-16; ventrals 135-144; anal 1; subcaudals 50-51; upper labials 7-8 (0); loreal 1; preoculars 2; subocular 1; postocular 1; temporals 2 + 2, 2 + 3 or 2 + 4. Total length of ♀ ? (M. C. Z. 3890), 340 (277 + 63) mm.

In M. C. Z. 3864 the supraoculars are separated by a large scale with a smaller one on either side of it. The internasals are separated in this

snake, a condition not found in the other specimens. All three examples are apparently unusual in having two or three labials directly in contact with the subocular, while M. A. Smith (1943, p. 505) states: "a single series of scales between the labials and the elongate subocular." Furthermore, Dr. Smith (1943, p. 502) cites two or three postoculars as a generic character but each of our three snakes has only a single postocular.

### TRIMERESURUS MALABARICUS (Jerdon)

*Trigonocephalus (Cophias) malabaricus* Jerdon, 1853, Journ. Asiatic Soc. Bengal, 22, p. 523: Western Ghats, India.

♂ ♂, ♀ ♀ (M.C.Z. 3845-6, 3851, 3883) near Madras (R.H. Beddome) N.D.

Midbody scale-rows 19-21; ventrals 144-149 (♂ ♂), 140-148 (♀ ♀); anal 1; subcaudals 58-60 (♂ ♂), 53 (♀); upper labials 8-10 (0); loreal 1; preoculars 2; subocular 1; postoculars 2; temporals broken up and scale-like; 7-8 scales separating supraoculars; a single series between the labials and subocular. Total length of ♀ (M. C. Z. 3883), 458 (383 + 75) mm.

### TRIMERESURUS ALBOLABRIS Gray

*Trimeresurus albolabris* Gray, 1842, Zool. Misc., p. 48: China.

♂, ♀ ♀, head (M. C. Z. 4369, 4490) Ambala (M. M. Carleton) 1878.

Midbody scale-rows 21-23; ventrals 168; anal 1; subcaudals 75 (♂), 60-64 (♀ ♀); upper labials 10-11 (0); loreal 1; preoculars 2; subocular 1; postoculars 2-3; temporals broken up and scale-like; 11-12 scales separating supraoculars; a double series of scales between the labials and subocular. Total length of ♂ (M. C. Z. 4490), 637 (500 + 137) mm.

This ♂ (M. C. Z. 4490) is of importance in having 23 midbody scale-rows and the more numerous subcaudals characterizing *T. erythrurus*. On the other hand it possesses the smooth temporals of *albolabris* and agrees with that species in having little or no brown coloring on the tail. The locality is well to the west of any record of *erythrurus*. Apparently this specimen raises doubts as to the specific status of *erythrurus* in relation to *albolabris*.

According to the collector, this snake kills many cattle as it lies upon, rather than under, the rank herbage whose color it resembles.

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